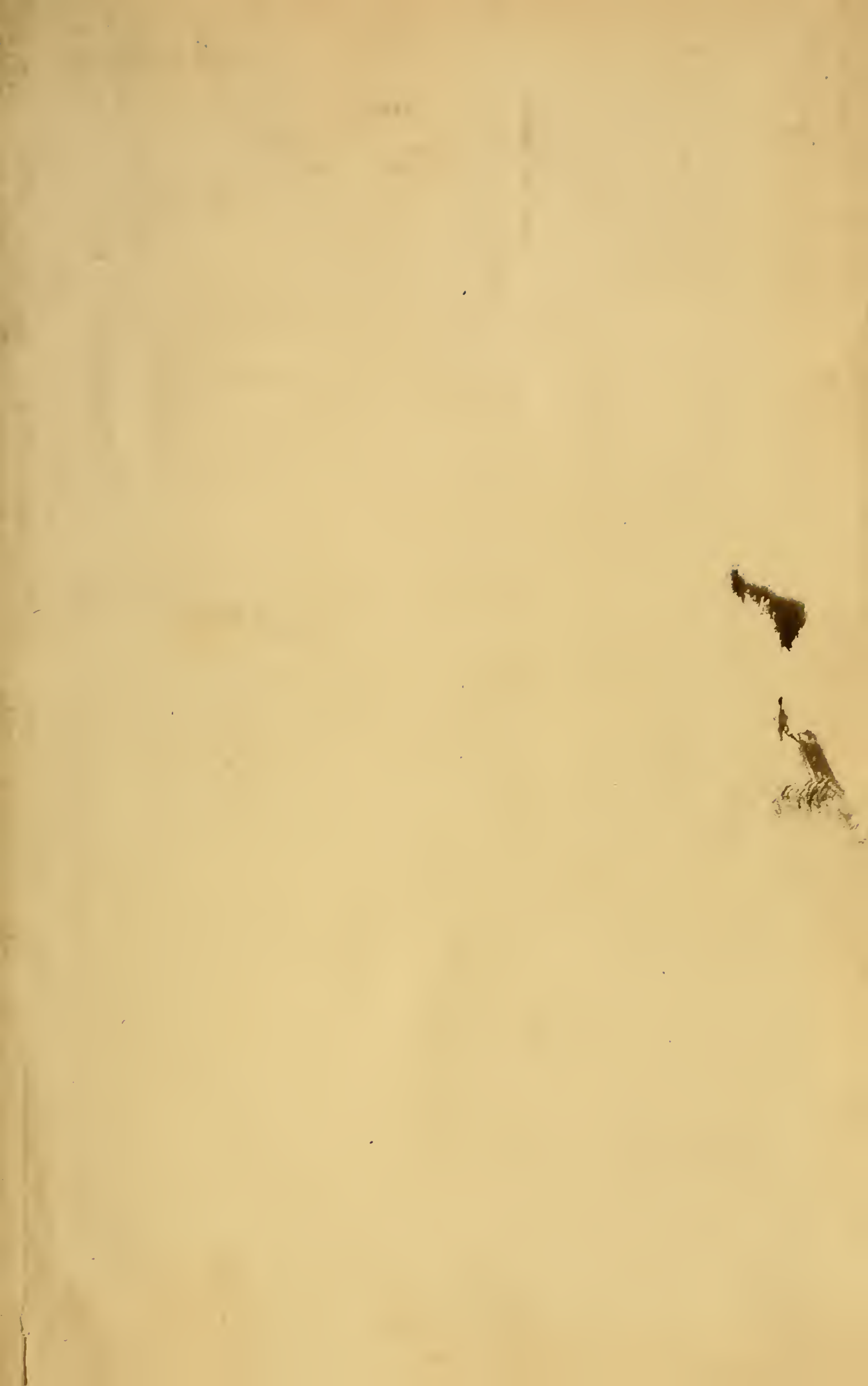
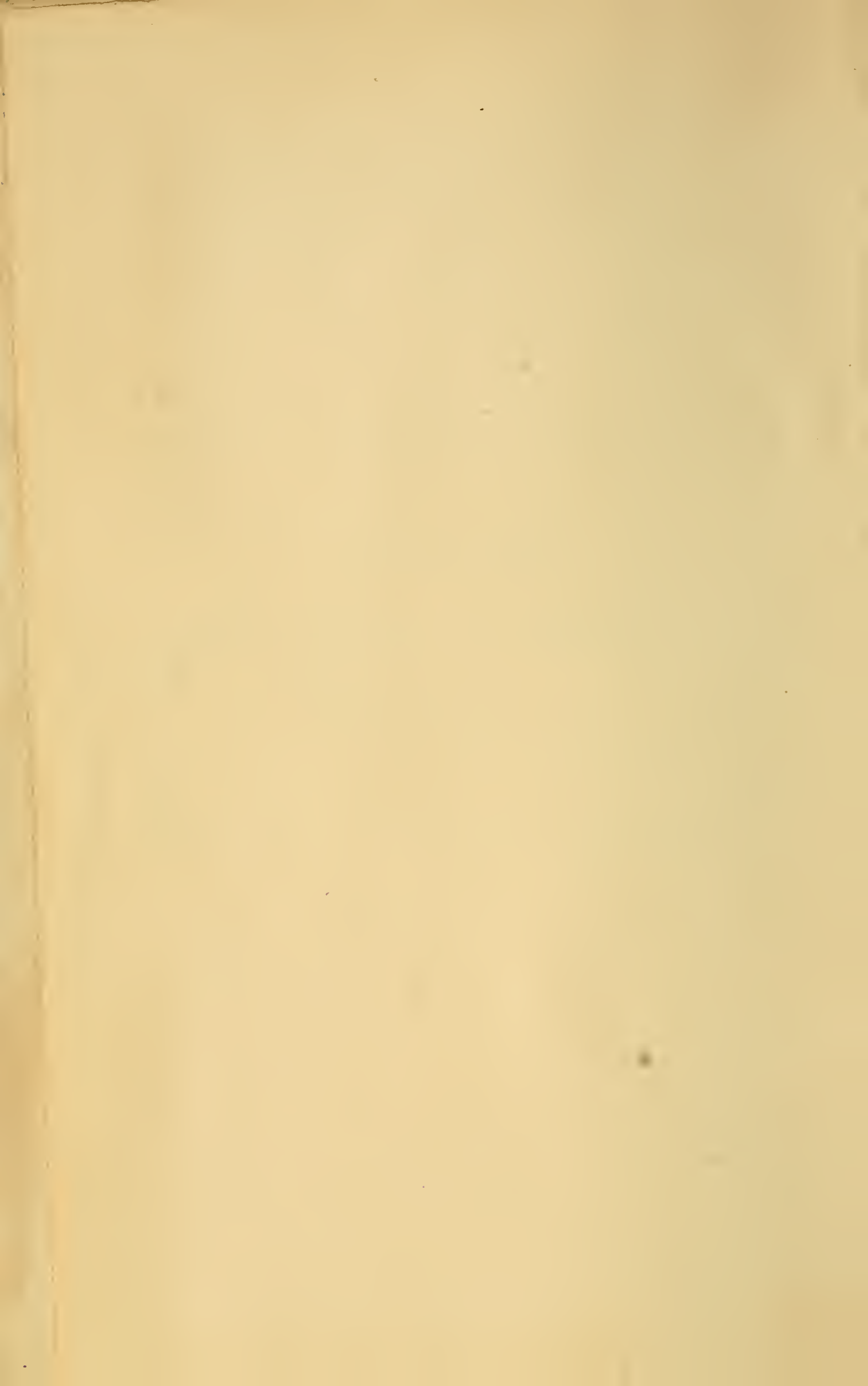


CAT.

No. ....

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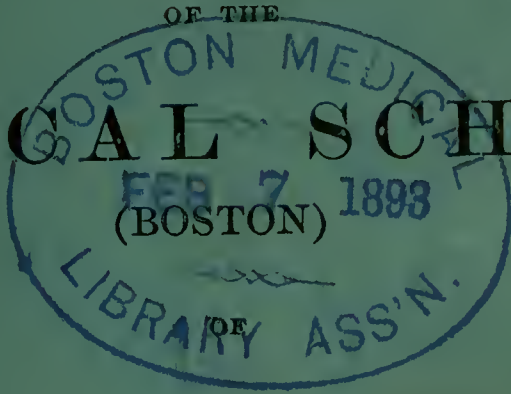


2380.

ONE HUNDRED

# ANNUAL CATALOGUE

# MEDICAL SCHOOL



HARVARD UNIVERSITY.

1888-89.

*[Reprinted from the Catalogue of the University.]*



CAMBRIDGE, MASS.

PUBLISHED BY THE UNIVERSITY.

1888.







ONE HUNDRED AND SIXTH  
ANNUAL CATALOGUE  
OF THE  
MEDICAL SCHOOL  
(BOSTON)  
OF  
HARVARD UNIVERSITY.

1888-89.

*[Reprinted from the Catalogue of the University.]*



CAMBRIDGE, MASS.  
PUBLISHED BY THE UNIVERSITY.  
1888.

# THE MEDICAL SCHOOL.

BOSTON.



Instruction in this School is given by lectures, recitations, clinical teaching, and practical exercises, uniformly distributed throughout the academic year. The year begins on the Thursday following the last Wednesday in September,\* and ends on the last Wednesday in June. There is a recess at Christmas, beginning December 23, and ending January 2; and a spring recess, beginning on the Wednesday before Fast Day, and ending on the following Tuesday, inclusive.

The course of instruction has been greatly enlarged, and is so arranged as to carry the student progressively and systematically from one subject to another, in a just and natural order.

In the subjects of anatomy, histology, chemistry, and pathological anatomy, laboratory-work is substituted for, or added to, the usual didactic lectures, and is as much required of every student as attendance at lectures and recitations.

The course of study recommended by the Faculty covers four years, but until further notice the degree of Doctor of Medicine will continue to be given upon the completion of three years of study, to be as ample and full as heretofore. The degree of Doctor of Medicine *cum laude* will be given to candidates who have pursued a complete four years' course, and obtained an average of 75 per cent in all the examinations of this course. In addition to the ordinary degree of Doctor of Medicine as heretofore obtained, a certificate of attendance on the studies of the fourth year will be given to such students desiring it as shall have attended the course, and have passed a satisfactory examination in the studies of the same.

Instead of the customary oral examination for the degree of Doctor of Medicine, held at the end of the three and four year's period of study, a series of written and oral examinations on all the main subjects of medical instruction has been distributed for regular students through their entire course of study. Every candidate for the degree must pass a satisfactory examination in every one of the principal departments of medical instruction, at some time during his period of study.

\* That the time of study shall count as a full term, students of every class must present themselves within the first week of the term and register their names with the Secretary.

1888.

1889.

JULY.

Su	Mo	Tu	W	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	--	--	--	--
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JANUARY.

Su	Mo	Tu	W	Th	Fr	Sa
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JULY.

Su	Mo	Tu	W	Th	Fr	Sa
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AUGUST.

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FEBRUARY.

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AUGUST.

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SEPTEMBER.

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MARCH.

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SEPTEMBER.

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OCTOBER.

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APRIL.

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OCTOBER.

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NOVEMBER.

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NOVEMBER.

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DECEMBER.

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JUNE.

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30	--	--	--	--	--	--

DECEMBER.

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22	23	24	25	26	27	28
29	30	31	--	--	--	--
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## CALENDAR.

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*The meetings of the PRESIDENT AND FELLOWS are held on the second and on the last Monday of every month.*

1888.

- Sept. 27, Thursday.*      **Academic Year begins** in all departments of the University.
- Oct. 10, Wednesday.*      Stated Meeting of the Board of Overseers.
- Oct. 17, Wednesday.*      Stated Meeting of the Academic Council.
- Dec. 1, Saturday.*      Last day for receiving applications for aid from the Loan Fund.
- Dec. 19, Wednesday.*      Stated Meeting of the Academic Council.

RECESS FROM DEC. 23, 1888, TO JAN. 2, 1889, INCLUSIVE.

1889.

- Jan. 9, Wednesday.*      Stated Meeting of the Board of Overseers.
- Jan. 10, Thursday.*      Applications from Graduate Students for admission to examination for any degree should be made before this date. See p. 283.
- Jan. 24, Thursday.*      Second half-year begins in the Medical School.
- Feb. 11, Monday.*      **Second half-year begins** (except in the Medical School).
- Feb. 20, Wednesday.*      Stated Meeting of the Academic Council.
- March 27, Wednesday.*      Last day for receiving applications for the Harris, Rogers, Parker, Kirkland, Walker, and Paine Fellowships, and the Tyndall Scholarship.
- March 30, Saturday.*      Last day for re-engaging College Rooms for 1889-90.
- April 1, Monday.*      Last day for receiving applications of candidates for Second-Year Honors.

RECESS FROM THE WEDNESDAY BEFORE FAST DAY TO THE FOLLOWING TUESDAY INCLUSIVE.

- April 3, Wednesday.*      Last day for receiving dissertations for the Boylston Medical Prizes.
- April 10, Wednesday.*      Stated Meeting of the Board of Overseers.
- April 10, Wednesday.*      Last day for receiving applications for the Morgan Fellowships.

- April 24, Wednesday.* Last day for receiving names of competitors for the Boylston Prizes.
- May 1, Wednesday.* Last day for receiving applications for Price Greenleaf Aid for 1889-90.
- May 1, Wednesday.* Last day for receiving dissertations for the Tappan, Dante, Sargent, and Sumner Prizes.
- May 1, Wednesday.* Last day for receiving theses of Candidates for the degree of Ph.D. or S.D. See p. 286.
- May 2, Thursday.* Last day for receiving applications for College Rooms for 1889-90.
- May 3, Friday.* Assignment of College Rooms for 1889-90.
- May 8, Wednesday.* Stated Meeting of the Academic Council.
- May 9, Thursday.* Speaking for the Boylston Prizes.
- May 29, Wednesday.* Last day for receiving applications for College Scholarships, and for aid from the Beneficiary Fund.
- May 30, Thursday.* Memorial Day; a holiday.
- June 1, Saturday.* Last day for receiving applications of Professional Students who wish to be candidates for the degree of A.M. with a professional degree. See p. 285.
- June 3, Monday.* Examinations in the Medical School begin.
- June 10, Monday.* Examinations in the Dental School begin.
- June 20, Thursday.* Stated Meeting of the Academic Council.
- June 21, Friday.* Seniors' Class Day.
- June 25, 27-29, Tuesday to Saturday.* Examinations for admission to Harvard College, and to the Lawrence Scientific School.
- June 26, Wednesday.* **Commencement.** Stated Meeting of the Board of Overseers.
- SUMMER VACATION OF THIRTEEN WEEKS, FROM COMMENCEMENT DAY TO SEPTEMBER 26.
- June 27, Thursday.* Examinations for admission to the Law, Medical, and Dental Schools.
- July 1, Monday.* Summer courses in Botany and Physical Training open.
- July 5, Friday.* Summer courses in Geology open.
- July 8, Monday.* Summer courses in Chemistry and French open.
- July 10, Wednesday.* Summer course in Physics opens.
- Sept. 23, Monday.* Examinations in the Dental and Medical Schools begin.

- Sept. 23, Monday.* Examination for admission to the Dental School.
- Sept. 23-26, Monday to Thursday.* Examinations for admission to Harvard College, and to the Lawrence Scientific School.
- Sept. 25, Wednesday.* Annual Meeting of the Board of Overseers.
- Sept. 26, Thursday.* **Academic Year** begins in all departments of the University.
- Sept. 26, Thursday.* Examination for admission to the Law School.
- Sept. 26, 27, Thursday and Friday.* Examination for admission to advanced standing in the Law School.
- Oct. 9, Wednesday.* Stated Meeting of the Board of Overseers.
- Oct. 16, Wednesday.* Stated Meeting of the Academic Council.
- Oct. 31, Thursday.* Last day for receiving applications of Candidates for Final Honors in 1890. See p. 135.
- Nov. 1, Friday.* Last day for receiving dissertations for the Bowdoin and Chauncey Wright Prizes.
- Nov. 1, Friday.* Last day for receiving applications for the Bright and Bigelow Scholarships.
- Nov. 30, Saturday.* Last day for receiving applications for aid from the Loan Fund.

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### ABBREVIATIONS.

C. College House.	H'y. Holworthy Hall.
D. Divinity Hall.	M. Matthews Hall.
G. Grays Hall.	S. Stoughton Hall.
H. Hollis Hall.	T. Thayer Hall.
H'ke. Holyoke House.	W. Weld Hall.

NOTE. — Dormitories within the College grounds are known as Halls; those outside the College grounds, but owned by the University, are called Houses; while others, the property of private owners, are called Blocks or Buildings.



# THE MEDICAL SCHOOL.

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## FACULTY.

- CHARLES W. ELIOT, LL.D., *President.*  
HENRY P. BOWDITCH, M.D., *Dean, and Professor of Physiology.*  
FRANCIS MINOT, M.D., *Hersey Professor of the Theory and Practice of Physic.*  
HENRY W. WILLIAMS, M.D., *Professor of Ophthalmology.*  
DAVID W. CHEEVER, M.D., *Professor of Surgery.*  
JAMES C. WHITE, M.D., *Professor of Dermatology.*  
CLARENCE J. BLAKE, M.D., *Professor of Otology.*  
FRANK W. DRAPER, M.D., *Assistant Professor of Legal Medicine.*  
FREDERICK I. KNIGHT, M.D., *Clinical Professor of Laryngology.*  
CHARLES B. PORTER, M.D., *Professor of Clinical Surgery.*  
J. ORNE GREEN, M.D., *Clinical Professor of Otology.*  
J. COLLINS WARREN, M.D., *Associate Professor of Surgery.*  
REGINALD H. FITZ, M.D., *Shattuck Professor of Pathological Anatomy.*  
WILLIAM L. RICHARDSON, M.D., *Professor of Obstetrics.*  
THOMAS DWIGHT, M.D., *Parkman Professor of Anatomy.*  
EDWARD S. WOOD, M.D., *Professor of Chemistry.*  
FREDERICK C. SHATTUCK, M.D., *Jackson Professor of Clinical Medicine.*  
WILLIAM H. BAKER, M.D., *Professor of Gynaecology.*  
T. M. ROTCH, M.D., *Assistant Professor of Diseases of Children.*  
WILLIAM B. HILLS, M.D., *Assistant Professor of Chemistry.*  
WILLIAM F. WHITNEY, M.D., *Secretary, and Curator of the Anatomical Museum.*  
CHARLES S. MINOT, S.D., *Assistant Professor of Histology and Embryology.*  
MAURICE H. RICHARDSON, M.D., *Assistant Professor of Anatomy.*  
FRANCIS H. WILLIAMS, M.D., *Assistant Professor of Therapeutics.*  
SAMUEL J. MIXTER, M.D., *Demonstrator of Anatomy.*  
CHARLES HARRINGTON, M.D., *Instructor in Materia Medica and Hygiene, and Assistant in Chemistry.*

## OTHER INSTRUCTORS.

- THEODORE W. FISHER, M.D., *Lecturer on Mental Diseases.*  
SAMUEL H. DURGIN, M.D., *Lecturer on Hygiene.*  
HENRY P. QUINCY, M.D., *Instructor in Histology.*  
AMOS L. MASON, M.D., *Instructor in Clinical Medicine.*



- FRANCIS A. HARRIS, M.D., *Demonstrator of Medico-legal Examinations.*  
 JAMES J. PUTNAM, M.D., *Instructor in Diseases of the Nervous System.*  
 ELBRIDGE G. CUTLER, M.D., *Instructor in the Theory and Practice of Physic.*  
 EDWARD H. BRADFORD, M.D., *Instructor in Surgery.*  
 EDWARD M. BUCKINGHAM, M.D., *Assistant in Diseases of Children.*  
 FRANCIS H. DAVENPORT, M.D., *Assistant in Gynaecology.*  
 GEORGE M. GARLAND, M.D., *Instructor in Clinical Medicine.*  
 JOSEPH W. WARREN, M.D., *Instructor in Physiology.*  
 WILLIAM W. GANNETT, M.D., *Instructor in Pathology.*  
 CHARLES M. GREEN, M.D., *Instructor in Obstetrics.*  
 CHARLES F. WITHINGTON, M.D., *Assistant in Clinical Medicine.*  
 WILLIAM C. EMERSON, M.D., *Assistant in Chemistry.*  
 GEORGE H. MONKS, M.D., *Assistant in Operative Surgery.*  
 HERBERT L. BURRELL, M.D., *Demonstrator of Bandaging and Apparatus.*  
 HAROLD C. ERNST, M.D., *Demonstrator of Bacteriology.*  
 CHARLES P. STRONG, M.D., *Assistant in Gynæcology.*  
 ROBERT W. GREENLEAF, M.D., *Assistant in Histology and Embryology.*  
 HERMAN F. VICKERY, M.D., *Assistant in Clinical Medicine.*  
 OTIS K. NEWELL, M.D., *Assistant Demonstrator of Anatomy.*  
 WILLIAM M. CONANT, M.D., *Assistant in Anatomy.*  
 EDWARD REYNOLDS, M.D., *Assistant in Obstetrics.*  
 CHARLES W. TOWNSEND, M.D., *Assistant in Obstetrics.*  
 CHARLES P. WORCESTER, M.D., *Assistant in Chemistry.*

The following gentlemen will give special clinical instruction : —

- JOHN HOMANS, M.D., *in the Diagnosis and Treatment of Ovarian Tumors.*  
 EDWARD COWLES, M.D., *in Mental Diseases.*  
 FRANCIS B. GREENOUGH, M.D., and ABNER POST, M.D., *in Syphilis.*  
 OLIVER F. WADSWORTH, M.D., *in Ophthalmoscopy.*  
 O. W. DOE, M.D., and JOHN W. ELLIOT, M.D., *in Gynæcology.*  
 GEORGE W. GAY, M.D., *in Surgery.*  
 ELBRIDGE G. CUTLER, M.D., and WILLIAM W. GANNETT, M.D., *in Auscultation.*  
 ARTHUR T. CABOT, M.D., and FRANCIS S. WATSON, M.D., *in Genito-urinary Surgery.*  
 GEORGE H. TILDEN, M.D., *in Dermatology and Syphilis.*  
 FRANKLIN H. HOOPER, M.D., *in Laryngology.*  
 GEORGE L. WALTON, M.D., and PHILIP COOMBS KNAPP, M.D., *in Diseases of the Nervous System.*

## STUDENTS.

## COURSE FOR GRADUATES.

Donahue, Hugh, M.D. 1888,	<i>Haverhill.</i>
Hastings, Daniel Gott, A.B. ( <i>Univ. of Rochester</i> ), M.D. 1888,	<i>Rochester, N. Y.</i>

## FOURTH CLASS.

Abbott, Harlan Page, A.B. ( <i>Brown Univ.</i> ) 1885,	<i>Jamaica Plain.</i>
Arnold, Horace David, A.B. 1885,	<i>Newton.</i>
Chadbourne, Arthur Patterson, A.B. 1885,	<i>Cambridge.</i>
Craigin, George Arthur, A.B. 1885,	<i>Boston.</i>
Day, Frank Leslie, A.B. ( <i>Brown Univ.</i> ) 1885,	<i>Keene, N. H.</i>
Greenwood, Allen,	<i>Waltham.</i>
Johnson, Edward Stearns,	<i>Boston.</i>
Morse, Charles Ellsworth,	<i>Wareham.</i>
Morse, Charles Francis, A.B. 1883,	<i>Boston.</i>
Stanard, Albert Cushman, L.B. ( <i>Univ. of Mich- igan</i> ) 1884,	<i>Ann Arbor, Mich.</i>
Stone, George Arthur,	<i>Ipswich.</i>
Storer, Malcolm, A.B. 1885.	<i>Newport, R. I.</i>
Woodbury, William Richardson, A.B. ( <i>Tufts Coll.</i> ) 1885,	<i>Melrose.</i>

## THIRD CLASS.

Ahearne, Cornelius Augustus,	<i>Lynn.</i>
Aldrich, Nathaniel Borden,	<i>Fall River.</i>
Allen, Edwin Howard, A.B. ( <i>Dartmouth Coll.</i> ) 1885,	<i>Alfred, Me.</i>
Andrews, Ezekiel Bennett,	<i>Freedom, N. H.</i>
Bacon, Edward Sawyer,	<i>Dover, N. H.</i>
Banks, Herbert Huntington,	<i>Barrington, N. S.</i>
Bates, Everett Alanson, A.B. ( <i>Yale Univ.</i> ) 1886,	<i>Danielsonville, Conn.</i>
Bonney, Sherman Grant, A.B. ( <i>Bates Coll.</i> ) 1886,	<i>Manchester, N. H.</i>
Bremner, Samuel Kimball, A.B. ( <i>Yale Univ.</i> ) 1886,	<i>Boxford.</i>
Burns, Edward Lewis,	<i>E. Somerville.</i>
Campbell, Patrick Henry,	<i>So. Boston.</i>
Carpenter, Thomas Bernard,	<i>Saxonville.</i>
Carroll, Francis Edward, A.B. ( <i>Fordham Coll.</i> )	<i>Boston.</i>
Churchill, Frank Spooner, A.B. 1886,	<i>Milton.</i>
Clark, Clinton Dewey, A.B. ( <i>Univ. of Rochester</i> ) 1882,	<i>Haverhill.</i>

Clark, Walter Thomas, A.B. 1886,	Cambridgeport.
Crafts, Leo Melville, L.B. ( <i>State Univ. of Minn.</i> )	
1886,	Minneapolis, Minn
Day, Arthur Kehew, A.B. 1886,	Concord, N. H.
Deal, Edward Elvin,	E. Boston.
Doe, Charles Cutler, S.B. ( <i>Mass. Inst. of Technol.</i> )	
1886,	Boston.
Forrest, Lawrence Francis,	Cambridge.
Foster, Clarendon Atwood,	Bridgetown, N. S.
Fuller, Daniel Hunt, A.B. ( <i>Brown Univ.</i> ) 1886,	Providence, R. I.
Gibson, Charles Langdon, A.B. 1886,	Boston.
Gray, Charles Henry,	Waltham.
Grouard, John Shackford,	Exeter, N. H.
Harding, George Franklin,	Boston.
Heydecker, Henry Reading, A.B. ( <i>Trinity Coll.</i> )	
1886,	New York, N. Y.
Holden, Eugene Martin, A.B. ( <i>Bates Coll.</i> ) 1884,	Otisfield, Me.
Huddleston, John Henry, A.B. 1886,	Boston.
Jelly, Arthur Carlton, A.B. 1881,	Boston.
Jenkins, Thomas Lincoln,	Revere.
Jones, Charles David, A.B. ( <i>Boston Univ.</i> ) 1886,	Melrose.
Jones, Lyman Asa, A.B. ( <i>Lawrence Univ.</i> ) 1886,	Appleton, Wis.
Kaan, George Warton,	Somerville.
Keleher, Francis Joseph, A.B. ( <i>Boston Coll.</i> ) 1886,	Boston.
Kenefick, Joseph Aloysius,	Lawrence.
Kenison, Nehemiah Samuel, A.B. 1886,	Allenstown, N. H.
Kingsley, George Lyle, A.B. ( <i>Yale Univ.</i> ) 1886,	Rome, N. Y.
Kingsley, Willey Lyon, A.B. ( <i>Yale Univ.</i> ) 1886,	Rome, N. Y.
Lancaster, Walter Brackett, A.B. 1884,	Boston.
McCarthy, Thomas Horatio,	No. Easton.
McQueeney, Francis Joseph,	Boston.
Mallory, Frank Burr, A.B. 1886,	Cleveland, O.
Moroney, William Joseph,	Pawtucket, R. I.
Nichols, Edward Hall, A.B. 1886,	Reading.
Parker, Henry Ward, A.B. ( <i>Brown Univ.</i> )	Boston.
Payne, James Henry, A.B. 1886,	Boston.
Peckham, Frank Edwin, PH.B. ( <i>Brown Univ.</i> ) 1885,	Providence, R. I.
Pelton, Clarence Whitfield,	Dedham.
Pinckard, Charles Philip, A.B. 1886,	Cincinnati, O.
Pratt, Charles Augustus, A.B. 1886,	E. Somerville.
Prouty, Albert Henry,	No. Brookfield.
Pudor, Gustave Adolph, A.B. 1886,	Portland, Me.
Ray, John Edward,	Boston.



Reeves, Marcellus,	<i>So. Boston.</i>
Rogers, Albert Edward,	<i>Boston.</i>
Seelye, Ralph Holland, A.B. ( <i>Amherst Coll.</i> ) 1886,	<i>Northampton.</i>
Shaw, Henry Alden,	<i>Worcester.</i>
Smith, William Lord, A.B. 1886,	<i>Boston.</i>
Sweeney, Hilary Tucker,	<i>E. Boston.</i>
Swett, Eddy Benjamin,	<i>W. Medford.</i>
Thomas, John Jenks, A.B. ( <i>Williams Coll.</i> ) 1886,	<i>Columbus, O.</i>
Thompson, John McQuaid, A.B. 1886,	<i>Boston.</i>
Wheaton, Robert Archibald,	<i>St. Paul, Minn.</i>
Whittemore, Frank Stowell,	<i>Sandwich.</i>
Wilbur, Hubert Granville, A.B. 1886,	<i>Fall River.</i>
Williams, William Frederic, A.B. ( <i>Brown Univ.</i> ) 1883,	<i>Bristol, R. I.</i>

## SECOND CLASS.

Abbot, Edward Stanley, A.B. 1887,	<i>Cambridge.</i>
Ames, John Lincoln, A.B. 1887,	<i>Jefferson, Me.</i>
Ayer, Richard Gilbert,	<i>Haverhill.</i>
Baird, Julian William, A.M., PH.C. ( <i>Univ. of Mich.</i> ) 1883,	<i>Boston.</i>
Bancroft, George Andrew,	<i>Lancaster.</i>
Bartol, John Washburn, A.B. 1887,	<i>Lancaster.</i>
Beaumont, William Shepard,	<i>Jamaica Plain.</i>
Blake, John Bapst, A.B. 1887,	<i>Boston.</i>
Bowker, Everett M.	<i>Brookline.</i>
Bragdon, Horace Elwood,	<i>E. Boston.</i>
Brooks, William Allen, A.B. 1887,	<i>Haverhill.</i>
Brown, Augustus Homer, A.B. ( <i>Bowdoin Coll.</i> ) 1884, A.M. ( <i>Ibid.</i> ) 1887,	<i>Brunswick, Me.</i>
Bryant, Edward Gilman,	<i>Roxbury.</i>
Butler, John Edward, A.B. ( <i>Amherst Coll.</i> ) 1885,	<i>Jamaica Plain.</i>
Carpenter, Irving Lloyd,	<i>Manchester, N. H.</i>
Chenery, Willam Elisha, A.B. ( <i>Boston Univ.</i> ) 1887,	<i>Boston.</i>
Coggeshall, Frederic, A.B. 1886,	<i>Cambridge.</i>
Connell, Arthur Irving, A.B. ( <i>Brown Univ.</i> ) 1887,	<i>Fall River.</i>
Coolidge, Frederic Shurtleff, A.B. 1887,	<i>Boston.</i>
Crockett, Eugene Anthony,	<i>W. Newton.</i>
Crooker, George Hazard, A.B. ( <i>Brown Univ.</i> ) 1887,	<i>Providence, R. I.</i>
Cummings, Irving Oscar, S.B. ( <i>Dartmouth Coll.</i> ) 1887,	<i>Concord, N. H.</i>
Curtis, Henry Fuller, A.B. ( <i>Colby Univ.</i> ) 1887,	<i>Kennebunk, Me.</i>

Curtis, John Benediet, A.B. ( <i>Boston Coll.</i> ) 1887,	<i>E. Cambridge.</i>
Cutler, George Washington,	<i>Waltham.</i>
Derby, William Parsons,	<i>Boston.</i>
Duff, John, S.B. ( <i>Mass. Inst. of Technol.</i> ) 1881,	<i>Charlestown.</i>
Dwight, Edwin Welles,	<i>Auburndale.</i>
Faulkner, William Edward, A.B. 1887,	<i>Keene, N. H.</i>
Finn, Edward William,	<i>Dedham.</i>
Fitz, George Wells,	<i>Peconic, N. Y.</i>
Flagg, Franklin Parkinson,	<i>Woburn.</i>
Foote, Edward Milton, A.B. ( <i>Univ. of Rochester</i> ) 1887,	<i>Syracuse, N. Y.</i>
Gaveau, Ceran,	<i>Hayti.</i>
Gleason, Edwin Putnam,	<i>Needham.</i>
Grimes, Warren Parker,	<i>Hillsboro' Bridge, N. H.</i>
Hall, George Clifton,	<i>Chelsea.</i>
Halpine, Andrew James,	<i>Lowell.</i>
Hendriken, Thomas Francis,	<i>Providence, R. I.</i>
Hicks, Joseph,	<i>Boston.</i>
Hitchcock, Henry Russell, A.B. ( <i>Brown Univ.</i> ) 1884,	<i>Foxboro'.</i>
Hoover, Charles Frank, A.B. 1887,	<i>Miamisburg, O.</i>
Houghton, Silas Arnold, A.B. 1887,	<i>Charlestown.</i>
Jackson, James Marsh, A.B. 1887,	<i>Roxbury.</i>
Johnson, Theodore Darwin Barton,	<i>Cambridge.</i>
Jones, Lombard Carter, A.B. 1887,	<i>Sandwich.</i>
Kelley, George Draper,	<i>Worcester.</i>
Kelley, Stephen Augustus,	<i>Charlestown.</i>
King, William Rufus,	<i>Charlestown.</i>
Knight, Augustus Smith, A.B. 1887,	<i>Manchester.</i>
Knowlton, Herbert Eugene,	<i>Belfast, Me.</i>
Lothrop, Howard Augustus, A.B. 1887,	<i>Sharon.</i>
Lyons, William Henry, A.B. ( <i>Holy Cross Coll.</i> ) 1886,	<i>Manchester, N. H.</i>
McCabe, James Edward, A.B. ( <i>Holy Cross Coll.</i> ) 1886,	<i>No. Chelmsford.</i>
McGuigan, John Joseph, A.B. ( <i>Boston Coll.</i> ) 1887,	<i>Danvers.</i>
Maekenzie, John Milne, A.B. ( <i>Brown Univ.</i> ) 1876, A.M. ( <i>Ibid.</i> ) 1879,	<i>Fall River.</i>
McPherson, William Ellsworth,	<i>Canton.</i>
Mahoney, Michael Peter,	<i>E. Providence, R. I.</i>
Morgan, Lewis Edson,	<i>Needham.</i>
Morrill, George Albert,	<i>Boston.</i>

Morse, John Lovett, A.B. 1887,	<i>Taunton.</i>
O'Shea, Edward Flavian,	<i>E. Boston.</i>
Park, Francis Edwin,	<i>Boston.</i>
Pearson, Maurice Wellesley,	<i>Byfield.</i>
Percy, David Thomas,	<i>Salem.</i>
Pierce, Edward Elisha, A.M. ( <i>Brown Univ.</i> ) 1880,	<i>Providence, R. I.</i>
Proctor, Frank Ingersoll, A.B. 1887,	<i>Boston.</i>
Quackenboss, Alexander, A.B. ( <i>Dartmouth Coll.</i> ) 1887,	<i>Worcester.</i>
Robinson, Thomas Johns, A.B. 1887,	<i>E. Taunton.</i>
Rogers, Bradlee,	<i>Boston.</i>
Rolfe, William Alfred,	<i>Chili.</i>
Simpson, James Edwin,	<i>E. Boston.</i>
Slattery, John Richard, A.B. ( <i>Georgetown Coll.</i> ) 1885,	<i>So. Boston.</i>
Smith, Edward Samuel, A.B. ( <i>Holy Cross Coll.</i> ) 1886,	<i>Pawtucket, R. I.</i>
Stevens, John Frederic,	<i>Sullivan, Me.</i>
Stickney, Edwin Pangman,	<i>Sunapee, N. H.</i>
Straw, Amos Gale, A.B. ( <i>Dartmouth Coll.</i> ) 1887,	<i>Manchester, N. H.</i>
Strong, James Henry,	<i>E. Boston.</i>
Swan, Will Howard,	<i>Winchester, N. H.</i>
Titus, Hermon Franklin, A.M. ( <i>Madison Univ.</i> ) 1876,	<i>Newton.</i>
Treviño, Donaciano, S.B. ( <i>St. Joseph's Coll., Ky.</i> )	<i>Matamoras, Mexico.</i>
Walker, Lewis Marshall,	<i>Boston.</i>
Washburne, Elliott,	<i>Taunton.</i>
Welch, Edward John, A.B. ( <i>Holy Cross Coll.</i> ) 1887,	<i>Billerica.</i>
Whitmarsh, Willard Francis, A.B. ( <i>Amherst Coll.</i> ) 1887,	<i>No. Abington.</i>
Winslow, Kenelm, B.A.S. 1883, M.D.V. 1886,	<i>Jamaica Plain.</i>
Wolf, Theodore Parker,	<i>Boston.</i>
Young, Charles Dean, A.B. 1885, A.M. ( <i>Univ. of Rochester</i> ) 1888,	<i>Rochester, N. Y.</i>
Young, Henry Dudley,	<i>Boston.</i>

## FIRST CLASS.

Ash, John Henry,	<i>No. Weymouth.</i>
August, Albert,	<i>Roxbury.</i>
Ayers, Howard, S.B. 1885, PH.D. ( <i>Univ. of Frei- berg, Germany</i> ) 1885,	<i>Boston.</i>
Bailey, George Guy,	<i>Rowley.</i>



Baker, Frederick Herbert,	<i>Billerica.</i>
Balcn, Franklin Greene, A.B. 1888,	<i>Jamaica Plain.</i>
Bicknell, William Horace,	<i>Weymouth.</i>
Bowles, George Hall, A.B. ( <i>Dartmouth Coll.</i> ) 1884,	<i>Plymouth, N. H.</i>
Bowman, Fred Raymond, A.B. ( <i>Colby Univ.</i> ) 1887,	<i>Sidney, Me.</i>
Brough, David Dandie, A.B. ( <i>Princeton Coll.</i> ) 1888,	<i>Providence, R. I.</i>
Cavanagh, Charles Russell,	<i>Mattapan.</i>
Cavanagh, Walter James,	<i>So. Boston.</i>
Clark, Sidney Avery, A.B. ( <i>Amherst Coll.</i> ) 1888,	<i>Northampton.</i>
Clarke, Elisha Davis, PH.B. ( <i>Alfred Univ.</i> ) 1888,	<i>Hope Val, R. I.</i>
Cogswell, George Procter, A.B. 1888,	<i>Cambridge.</i>
Collier, Lawrence Henry,	<i>E. Cambridge.</i>
Courtney, Samuel Edward,	<i>Malden, W. Va.</i>
Covell, Henry Hall, A.B. ( <i>Yale Univ.</i> ) 1888,	<i>Rochester, N. Y.</i>
Cox, Benjamin Francis, A.B. 1887,	<i>Boston.</i>
Cullis, Charles Franklin,	<i>Boston.</i>
Dane, John, A.B. 1888,	<i>Boston.</i>
Davis, Frederick Augustus, B.S. ( <i>Mass. Agric.</i> <i>Coll.</i> ) 1887,	<i>Lynn.</i>
DeWolf, Edward Gardner,	<i>Charlestown.</i>
Donovan, Henry Vincent,	<i>Lawrence.</i>
Edson, Carroll Everett, A.B. 1888,	<i>Roxbury.</i>
Ferguson, Charles John,	<i>So. Boston.</i>
Fourtin, Edmund Randolph Peaslee,	<i>Wakefield.</i>
Foy, Joseph McHale,	<i>Roxbury.</i>
Francis, Carleton Shurtleff, A.B. 1888,	<i>Brookline.</i>
Frothingham, Richard,	<i>Charlestown.</i>
Gallivan, William Joseph, A.B. 1888,	<i>Boston.</i>
Gorey, James Philip,	<i>Fitchburg.</i>
Gross, Harold Gordon, S.B. ( <i>Mass. Inst. of Tech.</i> ) 1888,	<i>Eureka, Cal.</i>
Hamilton, Edward Sylvester, A.B. ( <i>Holy Cross</i> <i>Coll.</i> ) 1888,	<i>Holliston.</i>
Harris, William Lincoln, B.S. ( <i>Mass. Inst. of</i> <i>Tech.</i> ) 1888,	<i>Boston.</i>
Harwood, Charles Harmant, A.B. 1888,	<i>Boston.</i>
Higgins, Frank Albert, S.B. ( <i>Worcester Poly-</i> <i>technic Inst.</i> ) 1886,	<i>Manchester, N. H.</i>
Hipkiss, George,	<i>Boston.</i>
Holder, Oscar Howe, A.B. 1888,	<i>Boston.</i>



Hoyt, Edward Malcolm,	<i>Wentworth, N. H.</i>
Jewett, Fred Bryce, A.B. ( <i>Amherst Coll.</i> ) 1888,	<i>Ballston, N. Y.</i>
Jordan, Charles Harold,	<i>Winchester.</i>
Keany, Francis Joseph, A.B. ( <i>Boston Coll.</i> ) 1888,	<i>Boston.</i>
Keleher, William Henry,	<i>Woburn.</i>
Kennedy, Charles Francis, L.B. ( <i>Coll. of Ottawa</i> ) 1887,	<i>Springfield.</i>
Knox, Arthur Henry,	<i>Chelsea.</i>
Lane, Francis Augustus,	<i>Peabody.</i>
Lane, Frederick Douglas,	<i>Lawrence.</i>
Leahey, George Henry Aloysius,	<i>Lowell.</i>
Legasy, George Joseph,	<i>Worcester.</i>
Lund, Fred Bates, A.B. 1888,	<i>Concord, N. H.</i>
Lyons, Christopher Philip,	<i>E. Boston.</i>
McBride, Henry Edward,	<i>Newburyport.</i>
McCarthy, John Coakley,	<i>Lee.</i>
Macdonald, William Huntley, A.B. ( <i>St. Francis Xavier Coll.</i> ) 1887,	<i>Antiquoisco. N. S.</i>
McIntyre, James Angus, A.B. ( <i>Univ. of New Brunswick</i> ) 1880,	<i>St. John, N. B.</i>
McKenna, Francis Patrick,	<i>So. Boston.</i>
Mackin, Richard Joseph, A.B. ( <i>Boston Coll.</i> ) 1887,	<i>Dorchester.</i>
McLaughlin, Daniel Joseph, A.B. ( <i>Boston Coll.</i> ) 1888,	<i>Boston.</i>
MacNichol, George Pope,	<i>Calais, Me.</i>
Manson, John Franklin,	<i>Ossipee, N. H.</i>
Mitchell, Edgar Ormsby,	<i>Newburgh, N. Y.</i>
Moran, John Joseph,	<i>So. Boston.</i>
Murphy, Timothy Joseph, A.B. ( <i>Boston Coll.</i> ) 1888,	<i>Roxbury.</i>
Nelson, Charles Danforth,	<i>Roxbury.</i>
O'Brien, John Francis, A.B. ( <i>Boston Coll.</i> ) 1888,	<i>Charlestown.</i>
O'Brien, John Patrick,	<i>Boston.</i>
Oakey, Daniel,	<i>Cambridge.</i>
Pease, Edward Allen, A.B. 1888,	<i>Boston.</i>
Perkins, Jay,	<i>Penobscot, Me.</i>
Poore, Ariel Low,	<i>Boston.</i>
Porter, Charles Allen, A.B. 1888,	<i>Boston.</i>
Post, Alfred Charles,	<i>Boston.</i>
Powers, Edward Joseph, A.B. ( <i>Holy Cross Coll.</i> ) 1888,	<i>E. Boston.</i>
Quirk, Charles Hudson,	<i>Buenos Ayres.</i>

Raddin, Fred Hocker,	<i>Chelsea.</i>
Redmond, James William,	<i>Boston.</i>
Risk, Winthrop Allen,	<i>Lawrence.</i>
Robbins, Fred Gibson,	<i>Salem.</i>
Roberts, Linneus Alton,	<i>Waldo, Me.</i>
Rowen, Henry Stanislaus,	<i>Cambridge.</i>
Sawyer, Walter Fairbanks,	<i>Keene, N. H.</i>
Scannell, Michael Edward,	<i>Lawrence.</i>
Senay, Joseph,	<i>Salem.</i>
Shapleigh, Arthur Byron,	<i>Charlestown.</i>
Sheehan, William Joseph, A.B. ( <i>Boston Coll.</i> ) 1888,	<i>Peabody.</i>
Shepard, Thomas Osborne, A.B. 1888,	<i>Salem.</i>
Snow, Wallace,	<i>Worcester.</i>
Stacey, Charles Franklin,	<i>Charlestown.</i>
Stebbins, Walter Gray, A.B. ( <i>Yale Univ.</i> ) 1886,	<i>Springfield.</i>
Sullivan, John Henry,	<i>Worcester.</i>
Tateum, Fred Thomas,	<i>Worcester.</i>
Taylor, Edward Wyllys, A.B. 1888,	<i>Montclair, N. J.</i>
Tenney, Benjamin, A.B. ( <i>Dartmouth Coll.</i> ) 1883, A.M. ( <i>Ibid.</i> ) 1887,	<i>Boston.</i>
Toomey, John Peter,	<i>E. Boston.</i>
Tower, Frederick Russell,	<i>Boston.</i>
Towle, Harvey Parker, A.B. 1888,	<i>Somerville.</i>
Tracy, Edward Aloysius,	<i>Lawrence.</i>
Tully, Edward Joseph,	<i>Lowell.</i>
Webster, Jonathan Edwards,	<i>Peabody.</i>
Wheeler, Charles Douglas, A.B. ( <i>Williams Coll.</i> ) 1888,	<i>Worcester.</i>
Whipple, Farrington Hasham, A.B. 1888,	<i>Portland, Me.</i>
Wynne, Sidney Yale,	<i>Deerfield.</i>

## SUMMARY.

RESIDENT GRADUATES . . . . .	2
FOURTH CLASS . . . . .	13
THIRD CLASS . . . . .	68
SECOND CLASS . . . . .	89
FIRST CLASS . . . . .	103
TOTAL . . . . .	<hr/> 275

## THE MEDICAL SCHOOL.

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### REQUIREMENTS FOR ADMISSION.

All candidates for admission, except those who have passed an examination for admission to Harvard College, must present a degree in Letters, Science, or Medicine, from a recognized college or scientific school, or pass an examination in the following subjects :—

1. ENGLISH. Every candidate will be required to write, legibly and correctly, an original English composition of not less than two hundred words, and also to write English prose from dictation.

2. LATIN. The translation of easy Latin prose.

3. PHYSICS. A competent knowledge of Physics (such as may be obtained from Balfour Stewart's Elements of Physics).

4. ELECTIVE SUBJECT. Each candidate must pass an examination in any *one* of the following subjects: French, German, the Elements of Algebra or of Plane Geometry, Botany.

Whenever the candidate shall give evidence of having passed a satisfactory examination in any of the above requirements either at Harvard College or at the Lawrence Scientific School, a subsequent examination in such subject or subjects will not be demanded for his admission to the Medical School.

Candidates, who pass in two of the four subjects, will be admitted conditionally; but, until these conditions are made up, no student will be permitted to take part in any exercises of the third class, or present himself for examination in the subjects of that class.

The examinations will be held at the Medical School and conducted in writing; specimens of the papers used will be found in the Catalogue to be obtained of the Dean. In judging the work of the candidate, the spelling, grammar, and construction will be considered.

*The examinations for admission* are held on the Thursday following the last Wednesday in June, and on the Monday preceding the last Wednesday in September, beginning at 10 A.M.

In 1889 the *examinations for admission* will also be held at the following places, beginning at 8 A.M. on Thursday, June 27 :—

In *Andover*, in rooms of the Phillips Academy; in *Quincy*, in rooms of the Adams Academy; in *Exeter, N.H.*, in rooms of the Phillips Exeter Academy; in *Concord, N.H.*, in the rooms of St. Paul's School; in *New York*, in the lecture-room of the Young Men's Christian Association,



Twenty-third St., corner of Fourth Ave.; in *Albany, N. Y.*, in the rooms of the Albany Academy; in *Philadelphia*, in the library-hall of the Academy of Natural Sciences, S. W. corner of Nineteenth and Race Sts.; in *Cincinnati*, in the rooms of the Law School, College Building, Walnut St.; in *Chicago*, in the rooms of the Chicago Manual Training School, corner of Michigan Ave. and Twelfth St.; in *St. Louis*, in the Central High School building, corner of Olive and Fifteenth Sts.; in *San Francisco*, in rooms of the Boys' High School, on Sutter St., between Gough and Octavia Sts.; and in some convenient city in Europe, to be announced later.

## DIVISION OF STUDIES.

### FOUR YEARS' COURSE.

*For the First Year.* — Anatomy, Physiology, General Chemistry,\* Medical Chemistry during the second half-year, and *Materia Medica*.

*For the Second Year.* — Practical and Topographical Anatomy, Medical Chemistry during the first half-year, Pathological Anatomy, Clinical Medicine, Surgery, Clinical Surgery, Therapeutics, and Diseases of Children.

*For the Third Year.* — Obstetrics, Theory and Practice of Medicine, Clinical Medicine, Surgery, and Clinical Surgery; and, as elective studies, Ophthalmology, Otology, Dermatology, Diseases of the Nervous System, Diseases of Children, Mental Diseases, Gynæcology, and Legal Medicine.

*For the Fourth Year.* — Ophthalmology, Otology, Dermatology, Laryngology, Mental Diseases, Diseases of the Nervous System, Gynæcology, Diseases of Children, Obstetrics, Clinical and Operative Obstetrics, Clinical Medicine, Clinical and Operative Surgery, Legal Medicine, Orthopedic Surgery, Genito-urinary Diseases, Hygiene, Vaccination, Bacteriology, Ovarian Tumors, Clinical Microscopy, and the Preparation of Food for Infants and Invalids.

### THREE YEARS' COURSE.

*For the First Year.* — Anatomy, Physiology, General Chemistry,\* Medical Chemistry during the second half-year, and *Materia Medica*.

*For the Second Year.* — Practical and Topographical Anatomy, Medical Chemistry during the first half-year, Pathological Anatomy, Clinical Medicine, Clinical Surgery, Therapeutics, and Diseases of Children.

\* Any student who shall have previously passed in the Undergraduate department or Scientific School of Harvard University an examination in General Chemistry (including qualitative analysis) will be exempt from examination in this branch, and may pursue the study of Medical Chemistry during his first year. The latter privilege will be granted to students from other colleges and scientific schools who have received instruction in general chemistry equivalent in character and amount to that of the first year, on passing a satisfactory examination at the September examination, provided that satisfactory evidence of such previous study be sent to the Dean of the Faculty one month before the date of this examination.

*For the Third Year.* — Obstetrics, Clinical and Operative Obstetrics, Theory and Practice of Medicine, Clinical Medicine, Surgery, Clinical Surgery, Ophthalmology, Dermatology, Syphilis, Otology, Laryngology, Mental Diseases, Diseases of the Nervous System, Gynæcology, Diseases of Children, Legal Medicine.

### METHODS OF INSTRUCTION.

The following methods of instruction are adopted in the several departments:—

*Anatomy and Histology.* — Lectures; various practical exercises, including abundant dissection, under the direction of the Demonstrator; recitations and demonstrations; histology, and embryology. The histological department has been reorganized, and the laboratories have been placed under the charge of special instructors. Laboratory instruction in the use of the microscope and in histology and embryology is offered to the first-year students. Accommodations are provided for those students who wish to pursue special or advanced courses. Facilities for original work are duly provided; students wishing to carry out any histological or embryological research receive all necessary assistance, and special efforts are made to provide material for original work. Microscopes are provided for those whose means do not permit the purchase of these instruments.

*Physiology.* — Lectures, recitations, conferences, and practical demonstrations in the Laboratory. To students of the second, third, and fourth classes, opportunities are given for original investigations in the Laboratory.

*Chemistry* is taught mainly by practical work in the Laboratory, the student having his own desk and apparatus. Descriptive Chemistry and qualitative analysis are taught during the first year. Besides the laboratory-work, there is a lecture and a recitation every week. In the second half of the first year and the first half of the second year Medical Chemistry is taught by lectures, recitations, and exercises in the Laboratory.

*Pathological Anatomy* is taught by lectures, recitations, and practical instruction in pathological histology. The collection of the Warren Anatomical Museum is used to illustrate the lectures, and morbid specimens in a fresh state are shown at the recitations, where the student is called upon to describe the appearances. Students also receive practical instruction in the method of making autopsies, being present at those made at both hospitals. The instruction in pathological histology, including the diagnosis of tumors, is continued throughout the year. Each student, provided with a microscope, the necessary instruments and reagents, prepares the various objects and submits them for explanation and criticism. The formation of small classes for special work and the individual pursuit of original investigations are encouraged.



The school possesses a large number of microscopes for the use of those students whose means will not permit the purchase of an instrument.

*Materia Medica.* — *Materia Medica* is taught by lectures and recitations with exhibition of medicines and pharmaceutical processes. Besides the large and complete cabinet of *materia medica* in the Museum, a collection of officinal drugs and chemicals, and of all the important preparations is placed where it can be seen by the students at any time.

*Therapeutics* is taught by lectures and demonstrations supplemented by clinical exercises at the Hospital to sections of the class.

*The Theory and Practice of Medicine.* — Lectures, recitations, and hospital visits.

*Clinical Medicine.* — Daily instruction is given in this department by clinical lectures, hospital visits, and other exercises. Students are furnished with cases for personal examination, and are called upon to report them before the class, where they are criticised. These examinations are held both in the wards and in the amphitheatre. Another exercise, known as the clinical conference, affords an opportunity for more thorough preparation of cases, more time being allowed for their study. The full written report of a case is read by the student who has examined it. It is afterwards criticised by the class, by the Professor of Clinical Medicine, and other teachers in the School. In addition to this, a regular course of supplementary instruction is given in Auscultation and Percussion, and in Laryngoscopy, which affords students an abundant opportunity for acquiring a thoroughly practical knowledge of these methods of exploration.

*Surgery.* — Lectures and recitations. There are also courses on Surgical Anatomy, Minor Surgery, Orthopedic Surgery, Surgical Histology, Bandaging, and Operative Surgery. In the last, students of the third and fourth classes are supplied with material for repeating the usual surgical operations.

*Clinical Surgery.* — Instruction in Clinical Surgery is given at the Massachusetts General Hospital and City Hospital, each week throughout the year, as follows:—

One clinical conference, one clinical lecture, two visits in the hospital wards, and two public operating days.

The surgical clinical conference is an exercise at which a student of the third class presents an elaborate and carefully prepared paper on a surgical case in the hospital wards, which has been assigned him. This paper he is obliged to read in the amphitheatre of the Hospital before the whole class, and defend it from their criticism. At the close of the exercise the Professor of Clinical Surgery gives a résumé of the case and his opinions upon it. The students of the second class attend these exercises preparatory to their active participation in them in their third year.

The clinical lecture is given either over surgical cases brought into the amphitheatre and illustrated by explorations or operations, or at the bedside in the wards illustrating the dressing of wounds, the treatment of fractures, and the progress of cases from entrance to discharge from the Hospital. Every candidate for a degree is required to report a case in clinical surgery.

*Obstetrics.* — Lectures and recitations. Students are required to take charge of least four cases of obstetrics. A course on operative obstetrics, with practical illustrations on the cadaver, is given during the second half-year.

*Diseases of Women.* — Lectures, recitations, and practical instruction at the different dispensaries in the education of the touch. In these institutions every facility is given the student to become familiar with the different forms of uterine disease. A course in operative gynaecology extending throughout the year at the Free Hospital for Women is open to students of the third and fourth classes. To students of the fourth class and to post-graduates cases are assigned for personal examination; these cases are reported in full at the clinical conference, and are made the subject of discussion by members of the class and the instructor. These students are also called upon to assist at the operations in the operative course.

*Diseases of Children.* — The instruction in this subject consists of a systematic course of lectures beginning in the latter half of the second year and extending through the entire third year.

The second-year lectures comprise a careful study of infant-feeding and the development of the normal infant and child, and are intended to be preparatory to the study of the diseased conditions, which are taught in the third year.

The teaching in the third year consists of lectures and the direct examination of cases. The amount of material at the disposal of the students in this department is very large, as it comprises the cases which are treated at the Boston Dispensary, Children's Hospital, and City Hospital. The special wards for Diphtheria and Scarlet Fever lately opened at the City Hospital offer unusual advantages for the study of these diseases, and are always at the disposal of Assistant Professor ROTCH for the benefit of the students. The instruction in the third year also includes eight clinical conferences and the visiting in their homes, in the Dispensary Districts, of such rare and interesting cases as are not usually seen in the hospitals.

At the end of the third year there are eight exercises devoted entirely to the review of the whole subject as taught in the second and third years, so that the student is not only prepared for his third-year examination, but also for entering upon the more extended clinical teaching of his



fourth year. The intention of the teaching in the fourth year is to have the student see large numbers of cases, and to carefully follow them in their treatment from the beginning to the end of the disease.

*Ophthalmology.* — A complete course is delivered upon the diseases of the eye, including clinical instruction and the use of the ophthalmoscope.

*Dermatology* is taught by lectures and clinical illustrations. The special out-patient department at the Massachusetts General Hospital furnishes ample opportunities for illustration.

*Syphilis.* — Recitations and clinical instruction.

*Otology.* — Lectures and clinical instruction at the Massachusetts Charitable Eye and Ear Infirmary, and at the Boston City Hospital.

*Laryngology.* — Lectures and demonstrations.

*Diseases of the Nervous System.* — Lectures and demonstrations.

*Legal Medicine.* — Lectures, recitations, and demonstrations.

*Embryology and Histology.* — Lectures.

*Hygiene.* — Lectures and demonstrations.

### TEXT-BOOKS.

The following works are recommended as text-books, and for collateral reading and consultation: —

#### ANATOMY.

*Text-Books.* — Gray (11th edition). Quain (9th edition). Wilson. Holden's Landmarks. Dwight's Frozen sections of a Child. Treves' Applied Anatomy. Stöhr's Lehrbuch der Histologie.

*Collateral Reading.* — Harrison Allen's Anatomy. Tillaux, Anatomie topographique. Dwight's Anatomy of the Head. Holden's Osteology. Humphrey's Human Skeleton. Morris, on the Joints. Klein's Atlas of Histology. Foster and Balfour's Embryology. Weisse's Practical Human Anatomy. Klein's Histology. Whitman's Methods in Microscopic Anatomy. Carnoy's Biologie cellulaire. Haddon's Introduction to Embryology.

#### PHYSIOLOGY.

*Text-Books.* — Dalton's Human Physiology. Foster's Text-book of Physiology. Martin, The Human Body. Kirke's Handbook of Physiology. Yeo's Manual of Physiology.

*Collateral Reading.* — Pavy, on Food and Dietetics. Fick, Compendium der Physiologie. Gamgee's Physiological Chemistry of the Animal Body. McGregor-Robertson's Elements of Physiological Physics. Landois' Manual of Human Physiology. Stirling's Practical Physiology.

## GENERAL CHEMISTRY.

*Text-Books.* — Witthaus' Medical Student's Manual of Chemistry.

*Collateral Reading.* — Miller's, Roscoe and Schorlemmer's, or Fownes' Chemistry. Douglass and Prescott's, or Fresenius' Qualitative Analysis.

## MEDICAL CHEMISTRY.

*Text-Books.* — Tyson, Practical Examination of Urine. Wharton and Stillé's Medical Jurisprudence, Vol. II., on Poisons, 4th edition.

*Collateral Reading.* — Ultzmann and Hoffmann's Atlas der Harnsedimente. Neubauer and Vogel, Analysis of the Urine. Hoppe-Seyler, Physiologische Chemie. Taylor on Poisons. Wormley's Micro-Chemistry of Poisons.

## MATERIA MEDICA.

*Text-Books.* — Mann's Prescription Writing. United States Dispensatory.

*Collateral Reading.* — H. C. Wood's Therapeutics. Bartholow's Therapeutics. Brunton's Pharmacology, Therapeutics, and Materia Medica. Edes' Materia Medica and Therapeutics.

## PATHOLOGICAL ANATOMY.

*Text-Books.* — Ziegler's Pathological Anatomy and Pathogenesis. Orth's Compend of Diagnosis in Pathological Anatomy.

*Collateral Reading.* — Friedlaender's Use of the Microscope in Clinical and Pathological Examinations. Coats' Manual of Pathology.

## THERAPEUTICS.

*Text-Books.* — H. C. Wood's Therapeutics. Edes' Materia Medica and Therapeutics.

*Collateral Reading.* — Brunton's Pharmacology, Therapeutics and Materia Medica. Ringer's Therapeutics.

## OBSTETRICS.

*Text-Books.* — Lusk's Manual of Midwifery.

*Collateral Reading.* — Schroeder's Manual of Midwifery. Cazeaux's Midwifery. Winckel's Diseases of Childbed. Schauta's Grundriss der operativen Geburtshilfe. Kucher's Puerperal Convalescence.

## THEORY AND PRACTICE.

*Text-Books.* — Strümpell's Text-Book of Medicine.

*Collateral Reading.* — Pepper's System of Practical Medicine by American authors. Flint's Practice of Medicine. Cutler and Garland's Percussion Outlines.

## CLINICAL MEDICINE.

*Text Books.* — Strümpell's Text-Book of Medicine. Flint's Practice of Medicine. DaCosta's Medical Diagnosis. Flint's Manual of Percussion and Auscultation.

*Collateral Reading.* — Pepper's System of Practical Medicine by American Authors. Fagge's Practice of Medicine. Gowers' Diseases of the Nervous System. Cutler and Garland's Percussion Outlines.

#### SURGERY.

*Text-Books.* — Bryant's Practice of Surgery. Billroth's Surgical Pathology. Smith's Operative Surgery.

*Collateral Reading.* — Holmes's System of Surgery. The International Encyclopedia of Surgery. Van Buren and Keyes's Genito-urinary Organs and Syphilis. Guérin, *Éléments de Chirurgie Opératoire*.

#### GYNAECOLOGY.

*Text-Books.* — Thomas, on the Diseases of Women. Fifth Edition.

*Collateral Reading.* — Emmet's Principles and Practice of Gynaecology. Klob's Pathological Anatomy of the Female Sexual Organs. Savage, The Surgery, Surgical Pathology, and Surgical Anatomy of the Female Pelvic Organs.

#### OPHTHALMOLOGY.

*Text-Books.* — Williams, Soelberg Wells, Nettleship, Zehender. Loring, on the Ophthalmoscope. Landolt, on Refraction and Accommodation.

#### OTOLOGY.

*Text-Books.* — Barr, Roosa, Burnett.

*Collateral Reading.* — Politzer, Diseases of the Ear. Schwartze, *Chirurgische Krankheiten des Ohres*.

#### DERMATOLOGY.

*Collateral Reading.* — Duhring, Hyde, Robinson, Kaposi, Behrend, v. Ziemssen.

### INSTRUCTION FOR 1888-89 TO STUDENTS OF THE THREE YEARS' COURSE.

#### **Anatomy.**

Descriptive Anatomy. *Four times a week.* Professor DWIGHT.

Practical Anatomy, with Exercises in Dissection. *Eight hours daily from October 15th till May.* Demonstrations and Recitations. Drs. MIXTER, NEWELL, and CONANT.

Topographical and Advanced Anatomy. *Once a week.* Professor DWIGHT. Topographical and Applied Anatomy. *From November till May.* Assistant Professor M. H. RICHARDSON.

Laboratory Exercises in Histology. *Twice a week.* Assistant Professor C. S. MINOT, and Dr. QUINCY.



Histology. *Once a week during the first half-year.* Assistant Professor C. S. MINOT. Embryology. *Eight lectures during the second half-year.* Assistant Professor C. S. MINOT.

### Physiology.

Systematic and Experimental Physiology. *Four times a week.* Professor BOWDITCH.

Laboratory Exercises in Experimental Physiology. *Twice a week.* Dr. J. W. WARREN.

### Chemistry.

Descriptive and Analytical Chemistry. *Twice a week, with an additional weekly exercise during the first ten weeks.* Assistant Professor HILLS.

Medical and Toxicological Chemistry. *Twice a week.* Professor WOOD. Practical Exercises in the Laboratory in Analytical and Medical Chemistry. *Daily.* Professor WOOD, Assistant Professor HILLS, and Drs. EMERSON HARRINGTON, and WORCESTER.

### Materia Medica and Therapeutics.

Materia Medica, with the Exhibition of Drugs. *Twice a week during the second half-year.* Dr. HARRINGTON.

Therapeutics; with Demonstrations. *Twice a week.* Clinical Therapeutics. *Once a week to sections of the class.* Assistant Professor F. H. WILLIAMS.

### Hygiene.

Lectures and Demonstrations. *Once a week during the second half-year.* Dr. HARRINGTON.

### Pathology and Pathological Anatomy.

General Pathology and Pathological Anatomy. *Twice a week.* Professor FITZ.

Special Pathological Anatomy, with Demonstrations. *Twice a week.* Professor FITZ.

Laboratory Exercises in Pathological Histology. *Twice a week.* Drs. WHITNEY and GANNETT.

Practical Instruction in Performing Autopsies. *Throughout the year.* Professor FITZ and Dr. GANNETT.

### Surgery.

Surgery. *Once a week.* Professor CHEEVER.

Surgery and Surgical Pathology. *Twice a week till January.* Professor J. C. WARREN.

Surgical Conference. *Once a week from November till May.* Professor PORTER.

Clinical Surgery. Lectures. *Once a week till January.* Professor CHEEVER. *Once a week from January till March.* Professor PORTER. *Once a week from March till June.* Professor J. C. WARREN.

Operative Surgery and Surgical Anatomy. Illustrative Exercises. *Twice a week in March and April.* Professor PORTER.

Operative Surgery, *Fifteen practical exercises.* Professor PORTER assisted by Dr. MONKS.

Application of Bandages and Apparatus. *Laboratory exercises to the class in sections, after February.* Professor J. C. WARREN and Dr. BURRELL.

Surgical visits are made at the Massachusetts General Hospital by Professors PORTER and J. C. WARREN, Assistant Professor M. H. RICHARDSON, and Drs. BEACH, HOMANS, and CABOT. — At the City Hospital, by Professor CHEEVER and Drs. GAY, BOLLES, BRADFORD, POST, and GAVIN. — The Surgical Cases at the Eye and Ear Infirmary and at the Boston Dispensary are shown by the surgeons in charge.

### Ophthalmology.

Diseases of the Eye. *Twice a week during the first half-year.* Professor H. W. WILLIAMS.

Clinical Ophthalmology. *Once a week till January, and after March.* Professor H. W. WILLIAMS.

### Dermatology.

Diseases of the Skin. *Once a week.* Professor WHITE.

Clinical Dermatology. *Once a week.* Professor WHITE.

### Syphilis.

Practical Diagnosis and Treatment of Syphilis. *Once a week for a half-year.* Dr. POST.

### Otology.

Otology. *Twice a week, October and November.* Professor BLAKE.

Clinical Otology. *Once a week in January, February, and March.* Professors BLAKE and GREEN.

### Special Pathology and Therapeutics.

Theory and Practice of Physic. *Twice a week.* Professor F. MINOT. Recitations. *Twice a week.* Dr. CUTLER.

Clinical Medicine. *Three times a week.* Professor SHATTUCK, and Drs. MASON, WITHINGTON, and VICKERY. *Twice a week.* Dr. MASON.

Clinical Conference. *Once a week.* Professor SHATTUCK, and Drs. GARLAND, MASON, and VICKERY.

Practical Instruction in Auscultation and Percussion. *Six times a week during the first half-year.* Drs. GARLAND, GANNETT, and WITHINGTON.

Practical Diagnosis and Treatment of Diseases of the Larynx. *Six times a week, first half-year.* Professor KNIGHT.

Practical Diagnosis and Treatment of Diseases of Children. *Twice a week.* Assistant Professor ROTCH.

Practical Diagnosis and Treatment of Diseases of the Nervous System. *Once a week.* Dr. WALTON.

Mental Diseases. *Once a week.* Dr. FISHER.

Legal Medicine. *Twice a week during the first half-year.* Assistant Professor DRAPER.

Medical visits are made at the Massachusetts General Hospital by Professors FITZ, W. L. RICHARDSON, and SHATTUCK, and Drs. ABBOT, TARBELL, and WHITTIER. — At the City Hospital, by Assistant Professor ROTCH and Drs. J. G. BLAKE, LYMAN, DOE, MASON, SUMNER, G. B. SHATTUCK, FORSTER, and FOLSOM. — At the Danvers, South Boston, and Somerville Asylums for the Insane. — The Medical Cases at the Boston Dispensary are shown by the physicians in charge.

### Obstetrics.

Theory and Practice of Obstetrics. *Twice a week.* Professor WM. L. RICHARDSON. Recitations. *Once a week.* Dr. C. M. GREEN.

Operative Obstetrics. *Twelve practical exercises.* Dr. C. M. GREEN.

Practical Instruction in Clinical Obstetrics. *Throughout the year.* Drs. C. M. GREEN, REYNOLDS and TOWNSEND.

### Gynaecology.

*Twice a week.* Professor BAKER. Two clinics each week during the second half-year. Professor BAKER. Two clinics each week during the first half-year. Dr. DAVENPORT.

## INSTRUCTION FOR 1888-89 TO STUDENTS OF THE FOURTH YEAR.

### Clinical Medicine.

*Once a week for four months.* Professor SHATTUCK. *Twice a week for one month.* Professor FITZ. *Once a week for six months.* Dr. GARLAND. *Once a week for four months.* Dr. GANNETT. *Once a week for three months.* Dr. CUTLER. *Once a week for three months.* Dr. VICKERY.

### Diseases of Children.

*Twice a week at Children's Hospital for three months and especial clinical exercises.* Assistant Professor ROTCH.



### Diseases of the Nervous System.

*Twice a week for two months.* DR. PUTNAM. *Twice a week for two months.* DR. KNAPP.

### Mental Diseases.

*Once a week for four months.* DR. FISHER. *Once a week for three months.* DR. COWLES.

### Surgery.

Clinical Surgery. *Once a week for two months.* PROFESSOR CHEEVER. *Once a week for four months.* PROFESSOR PORTER. *Once a week for two months.* PROFESSOR J. C. WARREN. *Twice a week for two months.* DR. GAY. *Once a week for two months.* DR. BURRELL. *Twice a week for two months.* DR. WATSON

Operative Surgery. *Practical Exercises.* PROFESSOR PORTER, ASSISTANT PROFESSOR M. H. RICHARDSON, and Drs. MIXTER and MONKS.

Orthopedic Surgery. *Twice a week for two months.* DR. BRADFORD.

### Ovarian Tumors.

*Once a week for two months.* DR. HOMANS.

### Obstetrics.

Clinical Obstetrics. *Twice a week for five months.* PROFESSOR WM. L. RICHARDSON.

Operative Obstetrics. *Practical Exercises.* DR. C. M. GREEN.

### Gynaecology.

*Twice a week for eight months.* PROFESSOR BAKER. *Twice a week for three months.* DR. DAVENPORT. *Twice a week for six months.* DR. STRONG. *Once a week for five months.* DR. DOE. *Twice a week for two months.* DR. SWIFT. *Twice a week for two months.* DR. ELLIOT.

Operative Gynaecology. *Practical Exercises.* PROFESSOR BAKER.

### Dermatology.

*Three times a week for eight months.* PROFESSOR WHITE.

### Syphilis.

*Once a week for eight months.* DR. GREENOUGH.

### Ophthalmology.

*Twice a week for five months.* PROFESSOR H. W. WILLIAMS. *Once a week for four months.* DR. WADSWORTH.



**Otology.**

Clinical Otology, in sections. *Twice a week for three months.* Professor C. J. BLAKE. *Three times a week in October, November, December, and January.* Professor J. O. GREEN.

**Laryngology.**

*Three times a week for three months.* Professor KNIGHT.

**Diseases of the Genito-Urinary Apparatus.**

*Once a week for four months.* Dr. CABOT. *Once a week for three months.* Dr. WATSON. *Once a week for three months.* Dr. TILDEN.

**Legal Medicine.**

*Twice a week during the first half-year.* Assistant Professor DRAPER. *Demonstrations.* Dr. HARRIS.

**Hygiene.**

*Twice a week for two months.* Dr. DURGIN.

**Vaccination.**

*Once a week for one month.* Dr. DURGIN.

**Bacteriology.**

*Once a week for four months.* Dr. ERNST.

**Cookery.**

*Twice a week (two hours) for one month.* Boston Cooking School.

**CLINICAL ADVANTAGES.**

The Medical Department of the University is established in Boston, in order to secure those advantages for Clinical Instruction and for the study of Practical Anatomy which are found only in large cities.

There are Hospital visits or operations daily.

*The Massachusetts General Hospital.* — During the past year, 2,814 patients were treated in the wards, and 18,981 in the out-patient departments. Patients are received from all parts of the United States and the Provinces, and are visited by the students, with the attending physicians and surgeons, on four days in the week. Operations are numerous, and are performed in the amphitheatre, which is provided with seats for 400 persons. Clinics in the following special branches have been established in connection with the out-patient department: Dermatology, Laryngology, Diseases of the Nervous System, and Ophthalmology.

*The City Hospital.* — During the past year, 5,397 cases were treated in its wards, and 13,124 in its various out-patient departments. The medical wards always contain many cases of acute diseases, and changes are taking place constantly. The opportunities for seeing fractures, injuries, and traumatic cases of all kinds are excellent, since, on an average, 800 street accidents are yearly treated. Surgical operations are performed in the amphitheatre. Diseases of the eye, the ear, and the skin are largely treated in the out-patient department. Clinical instruction is given by the physicians and surgeons twice a week.

In these two hospitals, the facilities for witnessing Operative Surgery are unsurpassed. Twice a week operations are performed in the presence of the class. The number of these operations is large, reaching nearly two thousand a year. The variety is great, embracing every surgical disease and injury, including the surgical operations on the eye and ear.

*The Boston Lying-in Hospital.* — More than five hundred patients are annually confined in the Hospital. In the out-patient department, attendance during confinement is also furnished to several hundred women at their homes.

*The Boston Dispensary.* — 60,621 patients were treated at this Public Charity during the past year. A new building has lately been erected at a cost of \$50,000, where students have ample and excellent opportunity for seeing practical work in the diagnosis and treatment of cases illustrating the various branches of medicine and surgery.

*The Massachusetts Charitable Eye and Ear Infirmary.* — The nine thousand patients annually treated at this institution present every variety of disease of the ear and eye, and supply a large number of operations.

*The Marine Hospital at Chelsea* receives from the shipping of the port a large number of patients, who furnish examples of the diseases of foreign countries and of distant parts of the United States. Many cases of venereal disease, in its various forms, are treated annually.

*The Free Hospital for Women.* — In the wards of this institution, which is devoted exclusively to the diseases peculiar to women, abundant opportunity is offered to study the severer forms of uterine disease, and to witness operations which are performed once a week throughout the year.

Students are also permitted to visit the Children's Hospital and the Carney Hospital on application to the physicians on duty.

There are twenty-five appointments annually for Internes in the various hospitals, and as many more for Assistants in the out-patient departments. Appointments for the Massachusetts General and City Hospitals are for the term of eighteen months, for the Boston Lying-in Hospital for four months, and for the Free Hospital for Women for nine months.



## EXAMINATIONS.

The regular examinations are conducted in writing and orally, and are held at the end of each year in June, and a week before the opening of the School in September (with a few exceptions), on the studies of the preceding year.\* They are held in the following order:—

*At the End of the First Year.*—Anatomy, Physiology, General Chemistry, † and Materia Medica.

*End of Second Year.*—Anatomy, Medical Chemistry, § Pathological Anatomy, and Therapeutics.

*End of Third Year.*—Obstetrics, ‡ Theory and Practice of Medicine, and Surgery †; and, in addition, each candidate will be required to take examinations, amounting to two (2) hours, and chosen from the following list of elective studies, at the commencement of the year; the choice thus made is to be final. One two-hour course or two one-hour courses are to be taken, as follows:—

Ophthalmology § (1 hr.), Otology (1 hr.), Dermatology (2 hrs.), Diseases of Nervous System (2 hrs.), Diseases of Children § (2 hrs.), Mental Diseases § (1 hr.), Gynaecology (2 hrs.), and Legal Medicine § (1 hr.).

*End of Fourth Year.*—Each candidate must pass examinations amounting to ten (10) hours, chosen from the following list of studies, the choice to be made at the commencement of the year and to be regarded as final:—

Ophthalmology (2 hrs.), Dermatology (2 hrs.), Otology (2 hrs.), Laryngology (1 hr.), Gynaecology (2 hrs.), Diseases of Children (2 hrs.), Diseases of Nervous System (2 hrs.), Mental Diseases (1 hr.), Clinical Obstetrics (2 hrs.), Operative Obstetrics (1 hr.), Operative Surgery (1 hr.), Legal Medicine (1 hr.), Hygiene (1 hr.), Bacteriology (1 hr.).

In addition to the above examinations each student is required to present a satisfactory report of the analysis of a solution containing inorganic substances, and of a specimen of urine, to examine and report upon a clinical case in Medicine and Surgery, and to take charge of and report upon four cases in Obstetrics; each student must also have satisfactorily dissected the three parts of the body.

The above courses are entirely distinct from third-year courses of the same title; and in addition there will be given clinical and laboratory courses in Orthopaedic Surgery, Genito-urinary Diseases, Syphilis, Ovarian

\* The June examination is for those only who are members of the School at the time, and for those entitled to apply for the degree.

† See foot-note on page 222.

‡ The examinations in Obstetrics and Surgery may be passed at the end of the fourth year if preferred.

§ The examinations in these subjects will be held at the end of the first half-year.

Tumors, Clinical Microscopy, Preparation of Food for Infants and Invalids; in these courses no examination is required.

House-officers in the Massachusetts General Hospital, Boston City Hospital, Carney Hospital, McLean Asylum, Massachusetts Charitable Eye and Ear Infirmary, Boston Children's Hospital, and Free Hospital for Women may obtain the fourth-year degree by entering the fourth class, passing an examination in the electives amounting to five (5) hours, and presenting a certificate of satisfactory performance of duty in the Hospital for a period equivalent to the School year, and an acceptable thesis or clinical report based upon observations made during their service. On account of the shorter services in the Lying-In Hospital and Adams Nervine Asylum internes of these institutions will be required to pass an aggregate of seven (7) hours examination and present a certificate and thesis as above.

Medical students who desire to devote their fourth year of study mainly to advanced work in any of the laboratories of the School may obtain the fourth-year degree upon passing examinations in the elective studies aggregating five (5) hours, and presenting an acceptable thesis based on the laboratory work actually done.

Students attending the four years' course may be examined at the end of the third or fourth year, as preferred, in Clinical Medicine, Clinical Surgery, and Obstetrics. The examinations of the first two years are common to both groups of students. The final examinations at the close of the three years' course are in the following subjects: Therapeutics, Obstetrics, Surgery and Clinical Surgery, Theory and Practice, and Clinical Medicine.

No student is allowed to anticipate the examinations in the regular course of studies of his year, except by special permission of the Faculty. Those who fail in any subject may again present themselves in that subject at the next regular examination.

*All students are required to notify the Secretary in writing of their intention to present themselves for examination, either in June or September, one month before such examination is to be held.*

The regular examinations for the year 1888-89 will begin June 3 and September 23.

The following was the order of the examinations held in June, 1888:—

*Thursday* (June 7), Surgery and Ophthalmology; *Friday*, Physiology; *Saturday*, Therapeutics and Legal Medicine; *Monday* (June 11), Obstetrics and Otology; *Tuesday*, Advanced Anatomy; *Wednesday*, Clinical Medicine and Gynæcology; *Thursday*, Medical Chemistry; *Friday*, Clinical Surgery and Laryngology; *Saturday*, General Chemistry; *Monday* (June 18), Theory and Practice and Dermatology; *Tuesday*, Materia Medica; *Wednesday*, Pathology and Mental Diseases; *Thursday*, Anatomy.



## DIVISION OF STUDENTS.

Students are divided into four classes, according to their time of study and proficiency, and during their last year will receive largely increased opportunities of instruction in the special branches mentioned. Students following the three years' course are classified as heretofore, and the instruction in the special branches is of the same character as that which has been given for several years. Students who began their professional studies elsewhere may be admitted to advanced standing; but all persons who apply for admission to the advanced classes must pass an examination in the branches already pursued by the class to which they seek admission, and furnish a satisfactory \* certificate of time spent in medical studies. No student may advance with his class, or be admitted to advanced standing, until he has passed the required examinations in the studies of the previous year, or a majority of them; nor may he become a member of the third class, until he has passed all the examinations of the first, in addition to a majority of those of the second year, or of the fourth class, until he has passed all of the examinations of the first and second, in addition to a majority of those of the third year.

*In order that the time of study shall count as a full year, students of all classes must present themselves within the first week of the School year and register their names with the Secretary.*

Students who do not intend to offer themselves for a degree will, however, be received for any portion of the course.

Any student may obtain a certificate of his period of connection with the School.

## LIBRARIES.

The students have access, free of charge, to the books belonging to the library of the School and to the libraries of the several departments.

The College Library at Cambridge is open to the students of the Medical School.

The Boston Public Library, which contains a large collection of medical books, is open to students who are inhabitants of Boston. Students, not inhabitants of Boston, who have filed a bond at the Treasurer's office, or deposited with the Treasurer the sum of fifty dollars, may also use this library.

## REQUIREMENTS FOR THE DEGREE.

Every candidate must be twenty-one years of age, and of good moral character; must give evidence of having studied medicine three or four full years; have spent at least one continuous year at this School; and have passed the required examinations.

\* After Sept. 1, 1889, no certificate of time spent in medical study will be accepted except from a recognized Medical School.



The course of study recommended by the Faculty covers four years; but, until further notice, the Degree of Doctor of Medicine will be given as heretofore, upon the completion of three years of study, to applicants who have passed satisfactorily the above requirements.

The degree of Doctor of Medicine *cum laude* will be given to candidates who have pursued a complete four years' course, and obtained an average of seventy-five per cent\* upon all the examinations above stated. A certificate of attendance on the studies of the fourth year will be given to such graduates as have attended the course, and have passed a satisfactory examination in the studies of the same.

The presentation of a thesis is not a requirement for graduation, but candidates for the degree of M.D. may present a voluntary thesis. If of conspicuous merit, it will receive honorable mention; if also of a suitable character, it may be read at the University Commencement exercises. Theses must be completed and delivered to the Dean on or before the first day of June.

The degree of Master of Arts is open to graduates of the School who are also Bachelors of Arts of Harvard College, and to Bachelors of Arts of other Colleges who shall be recommended by the Faculty of Harvard College. Candidates must pursue an approved course of study in Medicine for at least one year after taking the degree of Doctor of Medicine. Students who have taken the four years' course, and have passed the examinations "with high credit," may obtain the degree of Master of Arts by presenting their applications to the Faculty on or before the first of June in the year of their final examinations.

#### ANATOMICAL PRIZE.

Professor C. B. PORTER offers a prize of fifty dollars, open to all students, and graduates of not more than five years' standing, except teachers of anatomy, for the best dissection deserving the award illustrative of surgical anatomy, the specimen to be presented to the Museum.

#### PECUNIARY AID.

Four yearly scholarships, of the value of \$200 each, have been established by the Faculty, and are open to meritorious students who have been at the School for at least one year. The two Barringer scholarships, of the value of \$300 and \$200 respectively, will be awarded to deserving students, preferably those of the fourth class. Only those needing assistance are expected to apply; and of such, those holding the highest rank will have the preference. Holders of scholarships may be required to

\* In computing averages all examinations will be reduced to a basis of three hours.

render assistance in laboratory courses to an amount not exceeding four hours per week.

The income of the John Foster Fund, amounting to about one hundred and fifty dollars, is payable every other year to one or more meritorious students needing assistance.

### FEES AND EXPENSES.

For matriculation, five dollars; for a year, two hundred dollars, (if in two payments, at the first, one hundred and twenty dollars; at the second, eighty dollars); for a half-year alone, one hundred and twenty dollars; for graduation, thirty dollars. During the first two years there are the following additional expenses: Two dollars for each of the three parts required for dissection; and six dollars per year for chemical material, in addition to the charge for breakage of glass apparatus. Of students who do not pay in advance, a bond for \$300, executed by two sufficient bondsmen, one of whom must be a citizen of the United States, is required. A copy of such bond will be sent, on application to the Secretary of the Faculty, and all students are recommended to deposit such a bond. To students depositing bonds, term-bills will be presented one week before the end of the first term, to be paid within two weeks; and also one week or more before Commencement, to be paid on or before the beginning of the next academic year. Such students will be held responsible for the payment of fees until they have notified the Dean of their intention to withdraw from the School, and have subsequently received their bond from the Treasurer.\* Whenever a student is obliged to withdraw from the School before the last four weeks of a half-year for no misdemeanor, but for good and sufficient reason, to be determined in all cases by the Faculty, it shall be recommended that he be entitled to a remission of three-fourths of the amount due for that portion of the time during which he receives no instruction — this remission to date from the reception by the Dean of a written notice of the student's withdrawal from the School. No degree can be conferred till all dues to the School are discharged. The student's general expenses may be reduced, in accordance with his means, to the standard which prevails in other cities. The janitor of the Medical School will always have a list of boarding-houses in the vicinity of the School building, varying in their rates of charges from five to ten dollars a week.

*Fourth-Year Fees.* — The fee for the full year to all students who have paid for three full courses in the School shall be one hundred dollars. For other students, including graduates of other schools, the fee shall be two hundred dollars. For Internes in Hospitals, who are entitled to apply

\* The Treasurer's office is at 50 State St., Boston.



for the degree, the fee shall be thirty dollars for the entire year. For students engaged in special advanced work in the laboratories the fee shall be one hundred dollars.

### COURSES OF STUDY FOR GRADUATES.

The Faculty has arranged a greatly enlarged and improved plan of instruction for graduates, embracing all the branches of practical and scientific medicine. It is designed to supply those opportunities for clinical and laboratory study which have hitherto been sought in Europe by young graduates and practitioners.

The new and extensive laboratories of the School are inferior to none in America, and the clinical advantages afforded by the hospitals of Boston furnish abundant material for all purposes of instruction. The following are the principal institutions:—

Massachusetts General Hospital,	Boston Lying-in Hospital,
Boston City Hospital,	The Children's Hospital,
Boston Dispensary,	McLean Asylum for the Insane,
Massachusetts Eye and Ear Infirmary,	Boston Lunatic Hospital,
Free Hospital for Women,	The Carney Hospital.

Instructors in the Medical School are members of the medical and surgical staff of these institutions, and students are admitted to all of them under their immediate supervision.

Instruction in the graduate courses is entirely distinct from that of the undergraduate department of the School; but students of the former will be admitted also to all the regular lectures (not clinical) of the latter without extra charge during their connection with the School.

Instruction will be conducted in small classes and under the personal direction of the heads of departments. The courses will be mostly of eight weeks duration, and the practitioner will be able during a brief residence to take one or several of them. Those desiring to study a specialty may pursue long, continuous courses in any single branch at reduced rates.

Instruction will be given throughout the academic year, October to June. A certificate of attendance will be furnished when desired.

### FEEES.

The fees for the separate courses in the several departments vary with the courses.

Fee for two months' attendance upon all the courses,	\$100.
“ “ four months’ “ “ “ “ “	150.
“ “ attendance throughout the academic year . . . “ “ “	200.

An extra fee is required for the use of material in laboratory, dissecting and operative courses. Matriculation, \$5.

All fees are payable in advance to the Treasurer of the University, 50 State Street.

#### LIST OF COURSES.

*Anatomy.* — The following courses are offered: —

1. The Anatomy of the Joints, illustrated by preparations, frozen sections, and the live model.

2. The Anatomy of the Central Nervous System, including Cerebral Localization and the Course of Fibres. Illustrated by preparations, models, plates, and diagrams.

3. Applied Anatomy demonstrated on the cadaver, including Surface Anatomy.

4. A Dissection Course.

*Histology.* — A course on Histology and Development of the Uro-genital System; and one on Human Embryology.

*Physiology.* — Opportunities for carrying on original investigations in the Physiological Laboratory, which is well provided with apparatus for original research, including recording instruments of various sorts, induction coils, interrupters, galvanometers, constant temperature apparatus, photographic outfit, artificial respiration apparatus, etc.

*Medical Chemistry.* — Practical instruction in the Chemical Laboratory, in physiological chemistry, in the analysis of the urine and other animal fluids in health and disease, and of poisons; examination of blood-stains and other objects connected with medico-legal investigations, with the application of the microscope to these processes. Instruction in General Analysis will also be given if desired.

*Pathological Anatomy.* — The courses in Pathological Anatomy will consist of —

(1) Demonstrations of Morbid Material, and Practice in the Method of Post-mortem Examinations.

(2) Exercises in Pathological Histology.

(3) Instruction in Clinical Microscopy.

(4) Laboratory Opportunities for Special Investigations.

Each course will last eight weeks, and instruction will be continuous throughout the academic year from October to June.

*Clinical Medicine.* — Instruction in Clinical Medicine will consist of a course of eight weeks, which will be fully illustrated by cases in the wards of the Massachusetts General Hospital; two courses on the Physical Diagnosis of Thoracic and Abdominal Diseases; and a course on Diseases of the Stomach.



*Surgery.* — A course in Clinical Surgery at the Boston City Hospital in October and November at 10 o'clock on Mondays. Eight exercises.

One in the Massachusetts General Hospital in November and December, at 12 o'clock, on Tuesdays and Fridays; also a second course in January and February, at the same time and place.

Courses also in Operative Surgery will be given if desired.

Also a course in Clinical Surgery at the Massachusetts General Hospital in November and December, at 12 o'clock on Mondays and Wednesdays; and a second course in January and February, at the same time and place.

A course in Clinical Surgery at the Massachusetts General Hospital in October, at 12 o'clock daily, except Saturdays. Twenty exercises.

Two courses on Minor Surgery, including fractures and dislocations.

Clinical Surgery, including Minor Surgery, at the Carney Hospital in October and November, at 11 o'clock on Tuesdays, Thursdays, and Saturdays.

Two courses on Clinical Surgery (including Orthopedic) at the Children's Hospital.

Courses in Bandaging and Apparatus, of seven exercises, of two hours each.

Courses of six exercises upon the cadaver, illustrating the Applied Anatomy and Technique of Examinations, Operations, &c., of Genito-urinary Surgery.

*Obstetrics.* — Clinical instruction in Obstetrics will be given in the wards of the Boston Lying-in Hospital on five mornings of the week during the months of October, November, and December, and April, May, and June. Special attention will be given to the management of convalescence after confinement, and opportunity will be given to witness labor cases and operations in the Hospital.

An abundance of out-patient cases of Midwifery will be furnished.

Practical instruction in Operative Obstetrics on the cadaver will be given at the Medical School, consisting of ten daily exercises.

*Ophthalmology.* — At the Boston City Hospital two courses will be given, consisting of clinical instruction, practical exercises in diagnosis and treatment, opportunities for witnessing operations and demonstrations of the use of the ophthalmoscope and other means for determining the healthy or pathological conditions of the deep-seated structures and the transparent media of the eye, and the selection of appliances for the relief of optical defects.

Courses will also be given at the Massachusetts Charitable Eye and Ear Infirmary, the ophthalmic out-patient department of which receives between nine and ten thousand patients annually. The cataract extractions during the past year numbered 125, and the number of other operations is exceeded at no other institution of its kind in this country.

*Dermatology.* — Instruction in Diseases of the Skin will be given at the Skin Department of the Massachusetts General Hospital. Nearly two thousand cases are treated at this clinic yearly, which come from the New England States generally and the British provinces, and present many examples of the rare forms of cutaneous affections.

Each course will last eight weeks, and instruction will be continuous throughout the academic year, from October to June inclusive. Graduates will have opportunity for the closest examination of patients. They may also attend the systematic course of lectures on Dermatology. A large collection of Baretta's models of skin disease is open to their inspection in the Museum of the School.

*Syphilis.* — A course on Syphilis at the Out-Patient Department of the Boston City Hospital.

*Otology.* — The instruction in this department will be given at the Massachusetts Charitable Eye and Ear Infirmary and at the Boston City Hospital. Each course of eight weeks' duration will include, in addition to the exhibition and explanation of cases, practical instruction in examination and diagnosis, and a systematic review of the anatomy, physiology and diseases of the ear.

The Infirmary, 176 Charles Street, offers unusual facilities for the study of ear diseases in its very large clinic, more than three thousand aural cases being treated annually. It is fully provided with receiving, operating, and lecture rooms, severe cases and those requiring serious operations being provided with beds in the house and skilled nursing.

At the City Hospital, Harrison Avenue, many of the most important operations on the ear are performed, and in addition its general and contagious wards of more than four hundred beds afford unusual opportunities for studying the aural complications of general diseases, more especially of the exanthemata, as large numbers of cases of typhoid fever, diphtheria, scarlet fever, and measles are received here every year. The courses will consist of twenty-four exercises of one hour or more each.

*Gynaecology.* — Instruction in Diseases of Women will be given at the Free Hospital for Women and the Boston Dispensary. The wards of the first-named Hospital afford opportunities for the study of the severer forms of uterine disease, while the Out-Patient Department of both institutions supplies abundant material for the education of the touch, and the diagnosis and treatment of all minor gynaecological diseases. There will be four courses of eight weeks each.

Graduates may also attend the course of lectures at the Medical School.

Provided six or more graduates desire an operative course, in which they may take part in the performance of the various gynaecological operations upon the cadaver, as well as acquire greater familiarity with



the instruments used in minor Gynaeology, such instruction will be given from 7 till 9 P.M. each evening during the last two weeks of each of the previous courses.

*Ovarian Tumors.* — In this department cases for diagnosis will be shown, and both recent and preserved specimens illustrative of different forms of abdominal tumors will be exhibited. Graduates may also have opportunities to witness laparotomies and to receive clinical teaching on the individual case then under treatment. They will also be admitted to lectures at the Medical School.

*Laryngology and Rhinology.* — Instruction in Diseases of the Throat and Nose will be given throughout the academic year. Each course will last eight weeks.

Each course will consist of a demonstration of the structure of the larynx and nasal passages, and practical instruction in the use of the laryngoscope and rhinoscope, and in the diagnosis and treatment of affections of the throat and nose. Both Hospitals afford excellent material.

*Neurology.* — Courses of twenty-four lectures each will be given on Diseases of the Nervous System, at the Out-Patient Department of the Massachusetts General Hospital. The material afforded by this clinic, which receives patients from all over New England, is ample; the Department is well provided with means for the investigation of cases; the courses will be abundantly illustrated by diagrams and microscopic preparations as well as by the exhibition of patients, and will include instruction in the use of electricity in diagnosis and treatment.

*Mental Diseases.* — Instruction in Mental Diseases will be given at the McLean Asylum for the Insane. The daily average number of patients is 169.

Also at the Boston Lunatic Hospital during the months of April and May. The Hospital contains 200 patients.

*Diseases of Children.* — Instruction in Diseases of Children will be given at the City Hospital, Children's Hospital, Infant Hospital and West End Nursery, Boston Dispensary (Children's Room), and in the Dispensary Districts.

The material which can be made use of in this course is very large in amount, comprising not only the more common forms of disease met with by the physician in his every-day practice, but also the rare forms.

The new wards at the City Hospital, built especially for the reception of cases of scarlet fever and diphtheria, offer exceptional advantages for studying the diagnosis and treatment of these diseases.



*Legal Medicine.* — Instruction in Legal Medicine will be given at the City Hospital. Each course will last eight weeks, and instruction will be continuous throughout the academic year from October to June.

*Hygiene.* — Practical instruction will be given in the Laboratory at the Medical School in the analysis of air, water, soils, and of articles of food and drink for adulterations. Opportunities will also be afforded for special work. Attention will also be given to the sanitary inspection of houses, public buildings, and premises of offensive trades, and to the investigation of ventilation, plumbing, etc.

*Bacteriology.* — The courses in Bacteriology will consist of instruction in the methods of research, together with opportunities for original investigation. The means of illustration and facilities for work are those of a well-equipped laboratory.

The courses will begin December 1st, 1888, unless otherwise specified.

For further information and full description of the courses, address Dr. H. P. BOWDITCH, *Dean*, Harvard Medical School, Boylston Street, Boston, Mass.

### SUMMER COURSES.

During the summer of 1889 courses in many branches of practical and scientific medicine will be given by some of the teachers of the School. These courses will be clinical in character and will be given at the Hospitals and Dispensaries by the physicians and surgeons on duty. Practical instruction will also be given in several of the Laboratories at the School by the instructors in charge.

A detailed list of the Summer Courses will soon be announced. For further information address Dr. H. P. BOWDITCH, *Dean*, Harvard Medical School, Boylston Street, Boston, Mass.

## BOYLSTON MEDICAL PRIZES.

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These prizes, open to public competition, are offered annually for the best dissertations on questions in medical science proposed by the Boylston Medical Committee.

At the annual meeting of 1888 it was voted that a prize of four hundred and fifty dollars be awarded to George H. F. Nuttall, M.D., of California, for a dissertation entitled *A Contribution to the study of Immunity*.

No prize was awarded to any dissertation on the second subject proposed for 1888.

For 1889 two prizes are offered:—

1. A prize of two hundred dollars for the best dissertation on the question, *May the cause of Typhoid Fever in the Human species originate in Animals other than Man?*

2. A prize of one hundred and fifty dollars for the best dissertation on *The Effect of Desiccation on the life of Animal and Vegetable Tissues*.

Dissertations on these subjects must be sent post-paid to W. F. WHITNEY, M.D., Harvard Medical School, Boston, Mass., on or before *Wednesday, April 3, 1889*.

For 1890 two prizes are offered:—

1. A prize of two hundred dollars for the best dissertation embodying *The results of Original Work in Anatomy, Physiology or Pathology*. The subject to be chosen by the writer.

2. A prize of two hundred dollars for the best dissertation on *The Actions, Uses, and Values Antipyretics*.

Dissertations on these subjects must be sent to the same address as above on or before *Wednesday, April 2, 1890*.

In awarding these prizes preference will be given to dissertations which exhibit original work, but if no dissertation is considered worthy of a prize, the award may be withheld.

Each dissertation must bear in place of its author's name some sentence or device and must be accompanied by a sealed packet bearing the same sentence or device and containing within the author's name and residence. *Any clew by which the authorship of a dissertation is made known to the committee will debar such dissertation from competition.*

Dissertations must be written in a distinct and plain hand, and their pages must be bound in book form.

All unsuccessful dissertations are deposited with the Secretary, from whom they may be obtained, with the sealed packet unopened, if called for within one year after they have been received.

By an order adopted in 1826, the Secretary was directed to publish annually the following votes:—

1. That the Board do not consider themselves as approving the doctrines contained in any of the dissertations to which premiums may be adjudged.

2. That in case of publication of a successful dissertation, the author be considered as bound to print the above vote in connection therewith.

The Boylston Medical Committee is appointed by the President and Fellows, and consists of the following physicians:— GUSTAVUS HAY, M.D., *President*, ROBERT T. EDES, M.D., SAMUEL G. WEBBER, M.D., H. P. BOWDITCH, M.D., FRANK W. DRAPER, M.D., J. COLLINS WARREN, M.D., EDWARD S. WOOD, M.D., WILLIAM F. WHITNEY, M.D., *Secretary*, F. H. WILLIAMS, M.D.

The address of the *Secretary* is WILLIAM F. WHITNEY, M.D., Harvard Medical School, Boston, Mass.





The following tabular view illustrates the distribution of studies throughout the year.

1888-89, FROM SEPTEMBER 27 TO JUNE 30.

First Class.

	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
9					*Anatomy, R. Drs. Conant & Newell, Lect. Room E & D.	‡ Embryol. 8 L. Asst. Prof. C. S. Minot, Lect. Room B.
10	† Histology, L. Asst. Prof. C. S. Minot, Lect. Room B. ‡ Materia M., L. Dr. C. Harrington, Lect. Room A.	{ Histol. Asst. Prof. C. S. Minot & Dr. Quincy. Laborat. }	{ *Practical Physiol. Dr. J. W. Warren. Physiol. Laborat. }	{ Histol. Asst. Prof. C. S. Minot & Dr. Quincy. Laborat. }	† Materia M. Dr. C. Harrington, Lect. Room B.	Physiol. R. Prof. Bowditch, Lect. Room A.
11	Physiol. L. or Conf. Prof. Bowditch, Lect. Room A.	Physiol. L. Prof. Bowditch, Lect. Room A.	Chemistry, R. Asst. Prof. Hills, Lect. Room A.	Chemistry, L. Asst. Prof. Hills, Lect. Room A.	Physiol. L. Prof. Bowditch, Lect. Room A.	{ Chemis. R. or L. Prof. Hills, Lect. Room A 1st 10 w. *Pract. Physiol. Dr. J. W. Warren. Ph. Lab. }
12	Anatomy, L. Prof. Dwight, Lect. Room C.	Anatomy L. Prof. Dwight, Lect. Room C.	Anatomy, L. Prof. Dwight, Lect. Room C.		† Hygiene, L. Dr. Harrington, Lect. Room A or B.	
2	Laboratory. † Chemis., L. Prof. Wood, Lect. Room A.	Laboratory.	Laboratory. † Chemis., L. Prof. Wood, Lect. Room A.	{ *Practical Physiol. Dr. J. W. Warren, Physiol. Laborat. }	Laboratory.	
3	Laboratory.	Laboratory.	Laboratory.		Laboratory.	
4		Laboratory.	Laboratory.		Laboratory.	
5	Pract. Anat. Asst. Prof. M. H. Richardson, Lect. Room D.	Pract. Anat. Asst. Prof. M. H. Richardson, Lect. Room D.	Pract. Anat. Asst. Prof. M. H. Richardson, Lect. Room D.	Pract. Anat. Asst. Prof. M. H. Richardson, Lect. Room D.	Pract. Anat. Asst. Prof. M. H. Richardson, Lect. Room D.	

\* In sections.

† During first half year.

‡ During second half year.

At five o'clock, practical exercises in anatomy, in which all classes may take part, will be conducted by the Demonstrator.

Clinical Surgery at M. & C. in sections, of which due notice will be given.





Third Class.

	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
9	Clin. Med. Prof. Shattuck, M. G. H.	Clin. Med. B. C. H. Boston Disp.	Clin. Med. Prof. Shattuck, M. G. H.		Clin. Med. Ophthal. Cl. Prof. Williams Clin. Otology, Jan., Feb., March. Prof. Green, B. C. H.	Clin. Med. Dr. Vickery, M. G. H.
10	10.30 Surg. Cl. M. G. H. after Dec. Profs. Porter and Warren.	Surg. Cl. Prof. Cheever. Oct. till Apr. B. C. H. Gynaecol. Cl. Boston Disp.	Cl. Dermatology. Prof. White, M. G. H.	Dis. of Nerv. System. Dr. Walton, M. G. H.	Surg. Visit. B. C. H. Gynaecol. Cl. Boston Disp. till April.	Surg. Visit. M. G. H.
11	Otol. L., Oct., Nov., Lect. Room B. Prof. Blake.	Therapeutics. Asst. Prof. F. H. Williams B. C. H.	Diseases of Children. Asst. Prof. Rotch. No. Grove St.	Otol. L., Oct., Nov., Lect. Room B. Cl. E. & E. Inf. Jan. Feb. Mar. Prof. Blake.	Operations, B. C. H. Child. Dis. Asst. Prof. Rotch. Lect. Room B. Oct. & Mar.—June, Disp. Nov.—Mar.	Operations. M. G. H.
12	Therapeutics. Asst. Prof. F. H. Williams Lect. Room A.	Surg. Anat. L. Mar. & Apr. Prof. Porter, Lect. Room D.	Surg. Conf. Prof. Porter. after Nov. M. G. H.	Therapeutics. Asst. Prof. F. H. Williams Lect. Room A.	† Syphilis. Dr. Post, Boston Disp. Surg. Anat. L. Mar. & Apr. Prof. Porter, Lect. Room D.	Museum.
2	Gynaecol. L. Prof. Baker, Lect. Room B.		* Legal Med. Asst. Prof. Draper, Lect. Room E.	* Ophthal. L. Prof. Williams Lect. Room A.	* Legal Med. Asst. Prof. Draper, Lect. Room E.	
3	Theo. & Prac. L. Prof. Minot, Lect. Room E.	* Ophthalmology, L. Prof. Williams Lect. Room A. † Mental Dis.	Obstetrics, L. Prof. Richardson, Lect. Room B.	Theo. & Prac. L. Prof. Minot, Lect. Room E.	Obstetrics, L. Prof. Richardson, Lect. Room B.	Ment. Dis. Clinic. * Bos. Lun. Hosp. Dr. Fisher. Sch. f. Feeb. Mind. Chil. Jan. & Feb.
4	Surgery, L. Prof. Warren or Cheever, Lect. Room C.	Dermatology, L. Prof. White, Lect. Room B.	Surgery, L. Prof. Cheever, Lect. Room C.	Surgery, L. Prof. Warren till Jan. Lect. Room E.	Clinical Conf. Prof. Shattuck, Drs. Garland & Vickery, Lect. Room C.	
5	Pract. Anat. Asst. Prof. M. H. Richardson, Lect. Room D.	Pract. Anat. Asst. Prof. M. H. Richardson, Lect. Room D. Obstetrics, R. Dr. Green, Lect. Room B.	Pract. Anat. Asst. Prof. M. H. Richardson, Lect. Room D.	Pract. Anat. Asst. Prof. M. H. Richardson, Lect. Room D.	Pract. Anat. Asst. Prof. M. H. Richardson, Lect. Room D.	

\* During first half year.

† During second half year.

‡ Until March 1.

## Fourth Class. — MONDAY.

	October.	November.	December.	January.	February.	March.	April.	May.
9	Eye D. (c), C. Child. D. (c) Ch. and D.	Eye D. (c), C. Child. D. (c) Ch. and D.	Eye D. (c), C. Child. D. (c) Ch. and D.	D. of Th. (6), M. Surg. Cl. (10), C.	D. of Th. (6), M. Surg. Cl. (10), C.	D. of Th. (6), M. Surg. Cl. (10), C.	Eye D. (c), C.	Eye D. (c), C.
11	Cl. Ob. (3), Ly. Syph. (6), D.	Cl. Ob. (3), Ly. Syph. (6), D.	Cl. Ob. (3), Ly. Syph. (6), D.	Syph. (6), D. Skin D. (4), C.	Nerv. D. (4), C. Skin D. (4), C.	Nerv. D. (4), C. Skin D. (4), C.	Cl. Ob. (3), Ly. Surg. V. (10), C. Nerv. D. (4), C.	Cl. Ob. (3), Ly. Surg. V. (10), C. Nerv. D. (4), C.
3	Leg. M. (c), Coll.	Leg. M. (c), Coll.	Leg. M. (c), Coll.	Leg. M. (c), Coll.	Hyg. (c), Coll.	Hyg. (c), Coll.	Op. Sur. (c), Coll. (After Apr. 15.)	
4	Orthop. Sur. (c), Ch.	Orthop. Sur. (c), Ch.	Orthop. Sur. (c), Ch.					
7					O. Ob. (c), Coll.*			

## TUESDAY.

9	Ear D. (4), E. Med. Cl. (c), M.	Ear D. (4), E. Dig. D. (c), M.	Ear D. (4), E. Dig. D. (c), M.	Ear D. (3), E. Dig. D. (c), M.	Ear D. (3), E.	Ear D. (3), E.	Ear D. (3), E.	Ear D. (3), E.
10	Skin D. (15), M.	Skin D. (15), M.	Skin D. (15), M.	Skin D. (15), M.	Skin D. (15), M.	Skin D. (15), M.	Skin D. (15), M.	Skin D. (15), M.
11	Med. V. (10), M.	Med. V. (10), S.	Med. V. (10), S.	Med. V. (10), S.	Ner. D. (6), M. Card. D. (c), M.	Ner. D. (6), M. Card. D. (c), M.	Ner. D. (6), M. Card. D. (c), M.	Ner. D. (6), M. Card. D. (c), M.
12	Gen.-Ur. (c), M.	Gen.-Ur. (c), M.	Gen.-Ur. (c), M.	Gen.-Ur. (c), M.				
3	Wom. D. (2), W.	Wom. D. (2), W.	Wom. D. (2), W.	Wom. D. (2), W.	Wom. D. (2), W.	Wom. D. (2), W.	Wom. D. (2), W.	Wom. D. (2), W.
4	Wom. D. (2), W.	Wom. D. (2), W.	Wom. D. (2), W.	Wom. D. (2), W.	Wom. D. (2), W.	Wom. D. (2), W.	Wom. D. (2), W.	Wom. D. (2), W.
7					O. Ob. (c), Coll.*			

## WEDNESDAY.

9	Eye D. (c), C.	Eye D. (c), C.	Eye D. (c), C.	Eye D. (c), C.	Eye D. (c), C.	Eye D. (c), C.	Eye D. (c), C.	Eye D. (c), C.
10	Wom. D. (5), D.	Wom. D. (5), D.	Wom. D. (5), D. Surg. Cl. (10), C.	D. of Th. (6), M. Wom. D. (3), D. Surg. Cl. (10), C.	D. of Th. (6), M. Wom. D. (3), D. Surg. Cl. (10), C.	D. of Th. (6), M. Wom. D. (3), D. Surg. Cl. (10), C.	Sur. Cl. (6), C.	Sur. Cl. (6), C.
11	Sur. V. (c), C. Syph. (6), D.	Sur. V. (c), C. Syph. (6), D.	Syph. (6), D.	Syph. (6), D. Skin D. (4), C.	Nerv. D. (4), C. Skin D. (4), C.	Nerv. D. (4), C. Skin D. (4), C.	Sur. V. (10), C. Nerv. D. (4), C.	Sur. V. (10), C. Nerv. D. (4), C.
3	Leg. M. (c), Coll.	Leg. M. (c), Coll.	Leg. M. (c), Coll.	Bact. (c), Coll.	Bact. (c), Coll.	Bact. (c), Coll.	Bact. (c), Coll.	Bact. (c), Coll.
4	Or. Sur. (c), Ch.	Or. Sur. (c), Ch.	Or. Sur. (c), Ch.	Ov. Th. (c), Coll.	Ov. Th. (c), Coll.	Ov. Th. (c), Coll.	O. Sur. (c), Coll.†	O. Sur. (c), Coll.†
7								

NOTE. — The time at which each exercise begins is shown in the margin at the left of each page; the time of its ending is subject to the instructor's convenience.



THURSDAY.

9	Ear D. (4), E. Med.V. (12), M.	Ear D. (4), E.	Ear D. (3), E.	Ear D. (3), E.	Ear D. (3), E.
10	Child. D. (e), Ch. and D.	Child. D. (e), Ch. and D.	D. of Th. (6), M.	D. of Th. (6), M. Gen.-Ur. (4), D.	Gen.-Ur. D. (4), D.
11	Ophthalm. (5), M.	Ophthalm. (5), M.	Sur. V. (10), M.	Nervous D. (6), M.	Nervous D. (6), M.
12	Wom. D. (16), W.	Wom. D. (16), W.	Sur. V. (10), M.	Wom. D. (16), W.	Wom. D. (16), W.
3					
4					
7			O.Ob. (e), Coll.*		Op.Sur.(c), Coll. (After Apr. 15.)

FRIDAY.

9	Eye D. (c), C.	Eye D. (e), C.	Med. Cl. (6), M.	Med. Cl. (6), M.	Med. Cl. (6), M.
10	Skin D. (15), M.	Skin D. (15), M.	Skin D. (15), M.	Skin D. (15), M.	Skin D. (15), M.
11	Cl. Ob. (3), Ly.	Cl. Ob. (3), Ly.	Sur. V. (e), M.	Cl. Ob. (3), Ly.	Cl. Ob. (3), Ly.
2					
3			Hyg. (e), Coll.	Hyg. (e), Coll.	Cooking Sch. (c)
4	Wom. D. (2), W.	Wom. D. (2), W.	Wom. D. (2), W.	Wom. D. (2), W.	Wom. D. (2), W. O. Sur. (c), Coll. (After Apr. 15.)
7			O.Ob. (e), Coll.*		

SATURDAY.

9	Ear D. (4), E. Med.V. (12), M.	Ear D. (4), E.	Ear D. (3), E.	Ear D. (3), E.	Ear D. (3), E.
10	Wom. D. (5), D.	Wom. D. (5), D.	D. of Th. (6), M. Wom. D. (3), D.	D. of Th. (5), M. Wom. D. (3), D.	Sur. Cl. (6), C.
11	Med. Cl. (c), D.	Gen.-Ur. (6), D. Med. Cl. (c), D.	Wom. D. (4), C.	Med. Cl. (c), D. Wom. D. (4), C.	Med. Cl. (c), D. Wom. D. (4), C.
3	Ment.D.(c), Lu.	Ment.D.(c), Lu.			
4					
7			O.Ob. (e), Coll.*		O.Sur. (c), Coll.†

\* After February 15.

† After April 15.

The numbers in parentheses indicate the maximum number of students who will be admitted to the several exercises; the membership of the sections is determined by the instructors. At the exercises marked (c) the whole class may attend together.





# EXAMINATION PAPERS.

(June Examination, 1888.)

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## First Year's Studies.

### ANATOMY. — Professor DWIGHT.

(Answer as briefly as possible.)

1. What difference between a mucous and a serous membrane?
2. The insertion of the lower end of the semi-membranosus.
3. What nerves supply the lumbricales of the hand?
4. What arteries are near the knee joint?
5. Where do the pulmonary veins go?
6. Describe the bloodvessels of a lobule of the liver.
7. Which end of the small intestine is the larger? In which part are Peyer's patches most numerous?
8. What difference between the two openings of the stomach?
9. Describe a circumvallate papilla of the tongue. In what part are they found?
10. How do the ventricles of the brain connect with each other?

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### PHYSIOLOGY. — Professor BOYDITCH.

[Number the answers to the questions without copying the questions themselves. Do not number the pages of the book. Answer the questions in order, writing on each page in succession.]

1. How are albuminoid substances digested?
2. What is the nutritive value of alcohol?
3. What nerves connect the central nervous system with the heart? Describe their functions.
4. What evidence is there of the importance of the muscular system in the heat-production of the body?
5. How is the temperature of the body regulated?
6. What reason is there for supposing that liver-sugar is not wholly formed from glycogen?
7. What is the function of the fifth pair of cranial nerves?
8. What are the nerves of muscular sense?
9. How does the nervous system influence secretion!
10. Give arguments for and against the localization of functions in the cortex cerebri.
11. How does the eye give us ideas of distance?
12. Explain the significance of the "vital capacity."

## GENERAL CHEMISTRY. — Assistant Professor HILLS.

[Answer the questions in order, writing on each page in succession.]

1. Define: a base; an acid; a salt; quantivalence. Illustrate.
2. Write the equations representing the manufacture of  $H_2$ ,  $CO_2$ ,  $N_2O$ ,  $H_2S$ ,  $HCl$ .
3. Preparation, properties, and uses of chlorine.
4. Sources of the compounds of potassium, sodium, and ammonium.
5. Describe: white arsenic; Paris green; corrosive sublimate.
6. Carbolic acid; oxalic acid iodoform.
7. Sources of hydrocyanic acid and the cyanides. Properties and uses of potassium cyanide.
8. From what are the following substances obtained: alcohol; oxalic acid; tartaric acid; glycerine; carbolic acid?
9. What metals are precipitated from acid solutions by  $H_2S$ ? Color and solubility of the several precipitates?
10. Ready tests for white arsenic, corrosive sublimate, calomel, Paris green, and zinc sulphate.

## MATERIA MEDICA. — Assistant Professor F. H. WILLIAMS.

(Write all prescriptions carefully and with full directions.)

1. Mention the various ways of giving medicines and write prescriptions as examples of each method.
2. What substances should be given in pill form? Write a prescription for a suppository containing opium for a child five years old.
3. Which are the more common forms of mercury used in medicine? Write prescriptions for four.
4. Properties of chloral, subcarbonate of bismuth, nitrite of amyl, arsenious acid, chloride of iron.
5. Write three prescriptions for iron and two containing quinine.
6. Sources of caffeine, atropine, brucine, cocaine, digitalin.
7. What is a pharmacopœia? How is the revision of the United States Pharmacopœia accomplished?
8. Four rules for writing a prescription. What is a prescription intended to accomplish?
9. What is an aqua? a liquor? a tincture? How do drops vary in size?
10. Properties of strong alcohol, glycerine, castor oil? Prescription for salicylate of sodium, for iodide of potassium.
11. Compare the strength of six preparations of opium with morphine. What are the properties of chloroform?
12. Precautions in giving a subcutaneous injection.
13. Precautions in administering ether.
14. Active principles of aloes? podophyllum? granatum? nux vomica? pilocarpus?



15. Solubility in water of bicarbonate of sodium? calomel? iodoform? carbolic acid? iodine? oxide of zinc?

16. Composition of compound cathartic pill? compound powder of morphine? compound effervescent powders? compound solution of iodine?

17. Write a prescription for ergot, aconite, acetate of ammonium.

18. Prescriptions for hydrochloric acid, subnitrate of bismuth, bitartrate of potassium.

19. Precautions to be taken in using pepsine or pancreatine.

20. Doses of chloral.

- Hydrochlorate of pilocarpine.
- Hydrochlorate of apomorphine.
- Hydrobromate of hyoscine.
- Tincture of digitalis.
- Salicylate of sodium.
- Tincture of nux vomica.
- Fluid extract of gelsemium.
- Antifebrin.
- Carbonate of ammonium.

**Second Year's Studies.**

**MEDICAL CHEMISTRY. — Professor Wood.**

1. What are the reasons for considering that the amount of urobilin in the urine is a measure of the decomposition of the blood globule? Approximate estimation of uroporphyrin?

2. Tests for grape-sugar in the urine? How estimate the amount quantitatively?

3. Given a urine containing one half per cent., or more, of albumen, what are the possible causes?

4. How distinguish by an examination of the urine between a case of chronic diffuse nephritis and the early stage of convalescence from acute nephritis, the amount of urine being about 2000 cubic centimeters?

5. What inferences can be drawn from urine having the following characteristics? Why?

Color = high. Reaction = acid. Sp. Gr. = 1022. Amount of sediment = considerable.

Uph. = n.	$\bar{U}$ . = +.	Cl. = n.	E. P. = n.
Ind. = n.	$\bar{U}$ . = +.	Sf. = n.	A. P. = n.

Alb. = slight trace. Bile and sugar absent.

Sediment = chiefly uric acid crystals. Numerous hyaline and granular casts, many of which are of large diameter and have blood globules and renal cells adherent. Little free blood and renal epithelium.

Total amount of urine	=	1360 cc.
" " " urea	=	35.025 gms.
" " " chlorine	=	9.130 "
" " " P <sub>2</sub> O <sub>5</sub>	=	3.250 "
" " " albumen	=	0.950 "

*Uric acid  
calculi*

6. Mention all of the microscopic appearances of pus in urinary sediments. Of calcic oxalate.
7. How detect hydrochloric acid, chloral hydrate, and chloroform in contents of stomach or vomitus?
8. Describe an ordinary case of subacute arsenical poisoning terminating fatally in six or seven days.

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PATHOLOGICAL ANATOMY. — Professor FIRZ.

1. Define an effusion and state where and how it occurs.
2. Discriminate between an atheromatous pulse and atheromatous degeneration.
3. State the appearances due to amyloid degeneration.
4. State the processes by means of which crushed tissues are removed from the seat of injury.
5. Give the various appearances resulting from intracranial tuberculosis.
6. Discriminate between the results of cerebral thrombosis and cerebral embolism.
7. State the causes of dilatation of the heart.
8. Enumerate the lesions of the valve which may result from chronic mitral endocarditis.
9. Discriminate between lobar, lobular, and alveolar pneumonia.
10. Give the method of origin and results of gangrene of the lung.
11. Discriminate between hypertrophy and hyperplasia of the spleen.
12. Enumerate the causes of enlargement of the kidney.
13. Discriminate between the various abscesses of the kidney according to their differing appearances.
14. State the modifications in the canal of the urethra resulting from prostatic enlargement.
15. Describe the possible effects upon adjacent organs of uterine fibromyomata.
16. Enumerate the abdominal tumors which may be confounded with ovarian cystomata.
17. Describe the appearances of an extreme degree of dilatation of the stomach.
18. State the varieties of intestinal stenosis with reference to seat.
19. Discriminate between the varieties of atrophy of the liver according to color.
20. State the possible results of calculi in the gall-bladder.

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TOPOGRAPHICAL AND ADVANCED ANATOMY.

Professor DWIGHT.

1. Describe the pleurae and their relations.
2. Describe the region between the body of the hyoid bone and the inter-clavicular notch.

3. Describe the position and the relations of (a) the ascending colon, and (b) the descending colon.
4. Describe the palm of the hand.
5. Describe the antrum of Highmore and its relations.

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### Third Year's Studies.

#### THERAPEUTICS. — Assistant Professor F. H. WILLIAMS.

(State clearly what you mean and do not repeat.)

1. Anaesthetics : physiological action, comparative value, and uses of three important anaesthetics.
2. Diuretics : action and uses. Prescriptions for the alkaline treatment of rheumatism.
3. Arsenic, mercury, iodine, quinine. The most desirable forms for the administration of each, and the symptoms which they may induce.
4. Diaphoretics : action and uses. In what ways may the absorption of food be assisted.
5. Action and uses of ammonia, caffeine, ergot, nitrite of amyl.
6. Quinine : theories of action, elimination, and uses.
7. Indications for emetics, cathartics, alcohol.

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#### OBSTETRICS. — Professor W. L. RICHARDSON.

1. What is a placenta succenturiata? What would lead you to infer, at the close of a case of labor, that a placenta succenturiata had been left in the uterus? Such being the case, what would be your treatment?
2. Relations existing between pregnancy and the acute febrile diseases.
3. Hydrorrhœa gravidarum. Etiology, prognosis, treatment.
4. External palpation at the beginning of labor. How is it done? What may be learned from such an examination?
5. What advantages are to be gained by the use of antiseptics during the progress of a case of labor? How are they to be used?
6. Describe the mechanism of labor in occipito-posterior positions of the head. Treatment.
7. During the last three months of pregnancy what are the causes of ante-partum hæmorrhage? Treatment
8. What are the prodromic symptoms of eclampsia? Treatment. How would you treat a case of eclampsia occurring during labor?
9. Describe in detail the operation of craniotomy on the after-coming head.
10. A secundigravida, five months advanced in pregnancy, has a justo-minor pelvis with a conjugata vera at the brim of three and one fourth inches. Her first labor was terminated by craniotomy, forceps having been applied unsuccessfully. The child was a male, weighing ten pounds. How would you deal with such a case?



## SURGERY. — Professor CHEEVER.

I. JOINTS. — Give the differential diagnosis of ordinary synovitis of the knee, white swelling of the knee, rheumatic arthritis of the knee.

II. Give examples of the hyperaemia of paralysis, and the hyperaemia of irritation; explain the difference.

III. BONES. — Describe fracture of the middle of the shaft of the humerus; the displacement; the results; the treatment.

IV. Describe the process of healing by second intention; give the coarse and microscopical appearances.

V. HEAD. — Give the differential diagnosis of compression of the brain from fracture and depression; effused blood.

VI. Rodent ulcer: its clinical appearances, anatomical character, and prognosis.

VII. NECK. — Describe oedema of the glottis; chronic stenosis of the larynx.

VIII. The etiology and pathology of phlegmonous inflammation.

IX. ABDOMEN. — Give the signs and treatment of abscess near the coecum and appendix.

X. SCROTUM. — Differential diagnosis of scrofulous acute epididymitis; varicocele and hernia; sarcoma and syphilitic testis; cystic testis and hydrocele.

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 CLINICAL SURGERY. — Professor PORTER.

CASE I. — A young man, 26 years of age, walked into a scuttle which opened from the floor on which he was walking into a basement below. This scuttle had set in it an iron grating intended to be used as a sash, in which, however, no glass had yet been set. He consequently fell through the sash, striking astride one of the iron sash-bars, an iron rod about one inch in diameter. Much pain, swelling, and tenderness immediately ensued, with free bleeding from the meatus urinarius. The hemorrhage was sufficient to saturate the clothing about the genitals. The next morning he tried to urinate for the first time since the accident, and after expelling a clot from the urethra he succeeded in forcing out two to three ounces of urine. The act of micturition was not attended by pain, but seemed to be made difficult by a mechanical obstruction.

*Physical examination* showed extensive swelling about the perineum and scrotum. Moderate tenderness in this region. An extensive ecchymosis discolored the parts in question, extending from the anterior margin of anus forward over the whole perineum and scrotum. Its lateral borders were sharply defined, the anterior portion of the perineum was occupied by a soft semi-fluctuating tumor, irregular in shape, and two inches in length by one inch in breadth. Numerous unsuccessful attempts were made with a soft rubber catheter to enter the bladder. The catheter seemed to catch in a pocket in the bulbous portion of the urethra. The desire to "pass water" was imperative, but ineffectual.

a. What is the probable lesion?

b. What method or methods will you advise to relieve him?

- c. What will be the result?
- d. Outline the clinical history of such a case from the injury to convalescence, or otherwise.
- e. Prognosis.

CASE II. — By what symptoms would you diagnose a subglenoid dislocation of the humerus from a fracture of the humerus at the surgical neck?

What would be the treatment for each?

CASE III. — Give a clinical history of a case of cancer of the rectum. State the surgical treatment of various kinds for its relief or cure.

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### THEORY AND PRACTICE. — Professor MINOT.

1. What are the causes, symptoms, and treatment of pericarditis?
2. Give the symptoms, diagnosis, and treatment of chronic gastroduodenal catarrh in children.
3. Give the causes, symptoms, and treatment of thoracic aneurism.
4. Give the causes, symptoms, diagnosis, and treatment of cirrhosis of the liver.
5. Give an account of tubercular meningitis in children, — its etiology, symptoms, and diagnosis.
6. What are the symptoms (including the condition of the urine), the prognosis, and the treatment of chronic interstitial nephritis?
7. Give the symptoms, diagnosis, and treatment of intussusception in infants.
8. Give the symptoms, diagnosis, and treatment of acute dysentery.
9. Mention some of the principal causes, the symptoms, and the treatment of peritonitis.

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### CLINICAL MEDICINE.

Assistant Professor WHITTIER.

[Give the differential diagnosis, the prognosis, and the treatment of as many of these cases as the time will allow, discussing them in the order in which they are arranged. Assume that symptoms not mentioned are wanting; but as omissions, intentional or not, may occur, state them if essential. Success will depend more upon the quality than upon the quantity of the work. The intelligent discussion of the cases will have more weight than a hasty and inconclusive though correct diagnosis.]

CASE 1. — Patient a single man, 23 years of age, born and lived in Boston, a teamster by occupation. The mother died of pleurisy; one sister of "quick consumption." He had generally been well, with exception of attack of gonorrhoea four months before, and which was cured; could recall no illness. Had been drinking freely for four or five weeks. Began to cough three weeks before first seen. Cough quite severe; expectoration muco-purulent; no blood. Profuse sweating every night, and feeling of heat; occasional chills, followed by sweating. Slight dyspnoea on exertion. Bowels regular. Appetite fair. Has had some vomiting



after eating; less when seen. Sleeps well. Has lost flesh and feels weak. Temp.  $103^{\circ}$ ; pulse, 120; resp. 36. Urine, high colored, acid, 1.022 sp. gr.; very slight trace of albumen; no casts; amount not unusual. Aspect well developed, well nourished. Heart negative. Liver and spleen negative. Lungs, slightly diminished resonance in right infra-clavicular region, with harsh respiration and a few fine râles after cough. A week later temperature had ranged between  $103^{\circ}$  and  $104.5^{\circ}$ ; pulse had continued about 120; respirations had risen to 40-44. Slightly diminished resonance; numerous fine râles in lower left axilla; later, sharp pain in this region and some friction rubs. Harsh respiration, and fine râles also heard over lower right front. Gradually losing flesh and strength.

A week later temperature has ranged between  $102^{\circ}$  and  $104^{\circ}$ ; pulse has risen to 130, and is weak; respirations to 45-50. Respiration harsh, with rather coarse râles over both chests. Resonance unaltered from last note. Profuse sweating.

Diagnosis, treatment, prognosis.

CASE 2. — A carpenter, aet. 35, of good family history, had mumps and scarlet fever in boyhood; but he has been well ever since, until the troubles developed for which he now seeks advice.

The symptoms began five years ago, and they have gradually grown worse. They occur in a sort of cycle. There is constipation, lasting for several days or even two weeks. Then he feels a "terrible pain in the bowels," not always in the same place and not constant. He also notices at times much "bloating" of the abdomen, and loud "rattling" or "rumbling" of the bowels. Finally there is an escape per anum of flatus, followed by scybala; and a diarrhoea ensues. After some days of diarrhoea, the constipation sets in again. The loose stools are mostly faecal, with an admixture of mucus and blood, and accompanied by moderate rectal tenesmus. The stomach does not seem much disturbed. Although weakened considerably, the patient is usually able to work. He has no bad habits; has not been in a malarial region; has no thoracic symptoms. The urine is normal. His height is 5 feet 7 inches; his weight 131 pounds. Palpation of the abdomen reveals a hard mass or masses in the left inguinal region. Otherwise nothing is noted, except general debility.

Give diagnosis, prognosis, and details of treatment.

CASE 3. — The patient is a female, 18 years of age, without family history of any significance, whose personal history is quite free from objection, excepting that she had a slight cough last fall and early winter, some general weakness during the winter, and cough, with slight expectoration, for several weeks this spring.

Two weeks previous to the examination recorded below, the patient had a severe chill, pain in the left mammary region hindering respiration, a cough which was very painful, and expectoration at first mucous, but quickly tinged with dark-colored blood and somewhat offensive; at the same time there was high fever, as shown by pulse, temperature, and hurried breathing, loss of appetite, and tongue coated white and pasty; prostration was marked.

The physical signs were rapid breathing, uneven respiratory movements, right side exaggerated, left side lessened; marked dulness in left upper front and above spine of scapula behind, abundant crepitant sub-crepitant râles in same region, and marked increase of voice sounds.



On the fourteenth day the patient was suddenly seized with pain more severe than ever before in the left mammary region; quickly the breathing was greatly embarrassed, the hands and feet grew livid and cold, the lips were cyanotic, and the skin dusky; the action of the heart was rapid, feeble, and irregular, and it was needful to employ the most active measures to sustain life. The record of the examination made the next morning was as follows: Left chest fixed and distended, intercostal spaces obliterated; right chest respiratory movements exaggerated; respirations 44 per minute. Cardiac pulsations seen in right mammary region as high as third interspace. Vocal fremitus absent on left, present on right side. Heart movements felt only where seen. Whole left chest front and back tympanitic. No respiratory murmur heard in left front and back except at extreme upper portions, where it was markedly bronchial; and in third interspace left front, where it was thought to be amphoric. The heart sounds were extremely feeble, both of same volume and quality (infantile); the face was pallid and pinched; the hands were cold; the pulse 120 and very weak; the whole situation was extremely urgent.

Give diagnosis, prognosis, and treatment, and note probable coexisting affection.

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### Fourth Year's Studies.

#### OPHTHALMOLOGY. — Professor WILLIAMS.

1. How may erysipelas affect the eye or its appendages?
2. What changes in myopic eyes are discoverable by means of the ophthalmoscope?
3. How may cataract be detected in its earlier stages?
4. How may syphilis affect the eyes; in childhood or later?
5. How do the symptoms and prognosis of trachoma differ from those of catarrhal conjunctivitis?

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#### DERMATOLOGY. — Professor WHITE.

1. The most common forms of dermatitis medicamentosa?
2. Treatment of acne?
3. Causes of alopecia?
4. Diagnosis of scabies?
5. How distinguish between psoriasis and a scaly syphiloderm?

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#### GYNAECOLOGY. — Professor BAKER.

1. What is the difference between congenital atrophy of the uterus and uterus infantilis?
2. Describe the different positions in which a woman may be placed for examination, and the uses of each.
3. Describe the normal position of the uterus as clinically determined, and state within what limits and by what influences this position may vary.

MENTAL DISEASES. — Dr. FOLSOM.

1. Describe melancholia, and give general indications of treatment.
  2. Describe mania, and give general indications of treatment.
  3. What is the anatomical basis of the disease of general paralysis?
  4. What is senile insanity?
  5. What is senile dementia?
  6. Describe alcoholic insanity.
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LARYNGOLOGY. — Professor KNIGHT.

1. Differential diagnosis between syphilis, tuberculosis, and cancer of the larynx, and the treatment of each.
  2. Symptoms, laryngoscopic appearances, and treatment of acute catarrhal laryngitis.
  3. Symptoms, diagnosis, and treatment of hypertrophy of the adenoid tissue at the vault of the pharynx in young children.
  4. Varieties of pathological conditions in cases of acute "sore-throat," with treatment indicated by the different conditions.
  5. Possible appearances in the larynx (laryngoscopic) in cases of aneurism of the arch of the aorta.
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OTOLOGY. — Professors GREEN and BLAKE.

1. Describe the anatomical peculiarities of the inner wall of the tympanic cavity.
  2. The principal arterial blood supply of the tympanum and of the labyrinth; whence derived?
  3. Describe the pathological changes and the corresponding appearances in the drum membrane during the course of a purulent inflammation of the tympanum.
  4. Give the pathology, appearances, and treatment of serous effusions in the tympanum.
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LEGAL MEDICINE. — Assistant Professor DRAPER.

1. Cadaveric rigidity: (*a*) in what tissues of the body is it developed; (*b*) when does it appear and when does it disappear; (*c*) how does its presence help in the diagnosis of homicide?
2. Upon the discovery of the dead body of an unknown man, of what would you take note for the purpose of establishing the personal identity?
3. Give your estimate of the value of the hymen as an evidence of virginity.

4. For the purpose of a medico-legal report, what notes would you take of a recent punctured wound found upon a dead body?

5. What is the value of the presence of water in the stomach, to the amount of a pint or more, as a proof of death by drowning?

6. By what signs, physical and rational, would you recognize an abortion in progress at the end of the third month of pregnancy, in a woman desirous of concealing her pregnancy, but giving candid answers to your questions?



## ADMISSION EXAMINATION PAPERS.

## LATIN.

TRANSLATE:—

Eadem asperitate Cato matronum luxum insectatus est. Scilicet in medio ardore belli Punici Oppius, tribunus plebis, legem tulerat, qua vetabuntur mulieres Romanae plus semuncia auri habere, vestimento varii coloris uti, juncto vehiculo in urbe vehi. Confecto autem bello et florente republica, matronae pristina ornamenta sibi reddi postulabant, omnes vias urbis obsidebant, virosque ad forum descendentes orabant ut legem Oppiam abrogarent. Quibus accerrime restitit Cato, sed frustra; nam lex fuit abrogata.

## FRENCH.

TRANSLATE:—

1. Quand j'avais dix-huit ans — je vous parle d'une époque bien éloignée — j'allais, durant la belle saison, passer la journée du dimanche à Versailles, ville qu'habitait ma mère. Pour m'y transporter, j'allais presque toujours à pied, rejoindre sur cette route une des petites voitures qui en faisaient alors le service.

En sortant des barrières,<sup>1</sup> j'étais toujours sûr de trouver un grand pauvre qui criait d'une voix glapissante<sup>2</sup>: *La charité, s'il vous plaît, mon bon Monsieur!* De son côté, il était bien sûr d'entendre résonner dans son chapeau une grosse pièce de deux sous.

Un jour que je payais mon tribut à Antoine, — c'était le nom de mon pensionnaire — il vint à passer un petit monsieur poudré, sec, vif, et à qui Antoine adressa son memento criard: *La charité, s'il vous plaît, mon bon Monsieur!* Le passant s'arrêta, et après avoir considéré quelques moments le pauvre: "Vous me paraissez, lui dit-il intelligent et en état de travailler: pourquoi faire un si vil métier? Je veux vous tirer de cette triste situation et vous donner dix mille livres de rente." Antoine se mit à rire, et moi aussi. "Riez tant que vous le voudrez, reprit le monsieur poudré mais suivez mes conseils, et vous acquerrez ce que je vous promets. Je puis d'ailleurs vous prêcher d'exemple: j'ai été aussi pauvre que vous; mais, au lieu de mendier, je me suis fait une hotte<sup>3</sup> avec un mauvais panier, et je suis allé dans les villages et dans les villes de province, demander, non pas des aumônes, mais de vieux chiffons<sup>4</sup> qu'on me donnait gratis et que je revendais ensuite, un bon prix, aux fabricants de papier. Au bout d'un an, je ne demandais plus pour rien des chiffons, mais je les achetais et j'avais en outre une charette<sup>5</sup> et un âne pour faire mon petit commerce.

Cinq ans après je possédais trente mille francs.

2. Write a description of your native place in French. Three lines will be sufficient.

<sup>1</sup>barrières, *city walls*.    <sup>2</sup>glapissante, *shrill*.    <sup>3</sup>hotte, *basket*.    <sup>4</sup>chiffons, *rags*.  
<sup>5</sup>charrette, *cart*.

## GERMAN.

TRANSLATE (into idiomatic English) : —

Ein Jäger wandelte mit seinem Knaben auf dem Felde, und es floss ein tiefer Bach zwischen beiden. Da wollte der Knabe zu seinem Vater hinüber, aber er vermochte es nicht, denn der Bach war sehr breit. Sogleich schnitt er sich einen Ast aus dem Gebüsch, setzte den Stab in das Bächlein, lehnte sich keck darauf und gab sich einen gewaltigen Schwung. Aber siehe! es war der Art eines Fliederbaums,<sup>1</sup> und indem der Knabe über dem Bach schwebte, brach der Stab mitten entzwei und der Knabe that einen tiefen Fall in das Wasser, und die Wellen brausten und schlugen sich über ihm zusammen.

Dieses sah ein Hirt von ferne und lief hinzu und erhob ein Geschrei. Aber der Knabe blies das Wasser von sich und schwamm lachend an das Ufer.

<sup>1</sup> *elderbush.*

## PHYSICS.

1. What is the distinction between molecular and atomic forces?
2. Explain the difference between a solid, a liquid, and a gas.
3. How determine the specific gravity of a solid body?
4. Show that a gas has weight.
5. Show that gases possess buoyancy.
6. Define wave-motion and give examples of it.
7. Why is sound much better heard when the air is calm and homogeneous.
8. Why can't gold, silver, and copper coins be cast in a mould? How are they made?
9. Explain the spectroscope.
10. Explain Newton's rings.

## GEOMETRY.

1. What is the complement of an obtuse angle?
2. Define a parallelogram; an isocles triangle; a circle; an arc.
3. The diagonal of a parallelogram divides the figure into two equal triangles.
4. The hypotenuse of a right angled triangle is greater than either of the other sides.
5. Two equal oblique lines drawn from the same point of a perpendicular to equal distances from the foot of the perpendicular form equal angles with the perpendicular.
6. Show that the area of a regular polygon may be found by multiplying its perimeter by half the radius of the inscribed circle.

7. A straight perpendicular line drawn through the middle of the chord of the circle will pass through the centre of the circle and bisect the arc subtended by the chord.
8. Show how to construct a square equivalent to a given triangle.
9. The sum of the angles of a triangle is equal to two right angles.

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ALGEBRA.

(Leave all the work.)

1. Multiply  $2a^2 - 2a^2b + b$  by  $a^2 - 2a^2 + 3b$ .
2. If  $x = 13$ , what is the value of  $y$  in the following equation: —  

$$x^3 + 3x^2y + 3xy^2 + y^2 = 14112.$$
3. Divide  $\frac{2a^3}{a^4 + b^4}$  by  $\frac{a}{a^2 + b^2}$ .
4. Multiply  $\frac{a^2 - b^2}{a^2 + b^2}$  by  $\frac{a - b}{a + b}$ .
5. The sum of  $3\sqrt{a^2 + 2ab + b^2} + 2\sqrt{a^2 - 2ab + b^2}$ .
6. A father has two children; the daughter is twice and one half the age of the son; in three years the father will be six times the age of his son, and the sum of the ages of all three will be 81. What are their present ages?
7. A merchant sold at one time three pairs of boots and 8 pairs of slippers for \$21; and at another time 7 pairs of boots and 12 pairs of slippers for \$39; what was the price of each pair?

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BOTANY.

1. With how many species of wild flowers in your own neighborhood are you familiar?  
 Mention the botanical names and families of two or three peculiar to that neighborhood and ten (10) which are widely distributed through the United States.
2. Mention and describe some of the important plants (not necessarily indigenous) in the following orders: —  
 (1) Lauraceae,                      (2) Leguminosae,                      (3) Liliaceae.
3. Describe the parts of a flower and their uses.
4. Describe the process of fertilization in plants.  
                     (a) Phaenogamous,                      (b) Cryptogamous.







